A STUDY OF THE STATUS OF COMPUTER-ASSISTED INSTRUCTION IN BUSINESS COMMUNICATION COURSES IN AACSB ACCREDITED SCHOOLS

By

PAN CHIEN-CHUN

Bachelor of Arts in English Literature and Language
Tamkang University
Taipei, Taiwan, ROC
1973

Master of Science in Business Education
Southern Illinois University
Carbondale, Illinois
1979

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF EDUCATION
July, 1985

A STUDY OF THE STATUS OF COMPUTER-ASSISTED INSTRUCTION IN BUSINESS COMMUNICATION COURSES IN AACSB ACCREDITED SCHOOLS

Thesis Approved:

Thesis Adviser

Dean of the Graduate College

ACKNOWLEDGEMENTS

Dr. Dennis Mott, my major adviser and doctoral committee chairperson, deserves my full-hearted gratitude. By his advice and assistance, both professional and personal, Dr. Mott gave this study blood and made it more valuable both academically and scholarly than it otherwise would have been.

I would like to express my sincere appreciation to the members of my doctoral committee for their support throughout this study. Dr. Jane Hammer inspired me with continual encouragement along with endless patience. She was a valuable information source, generously sharing her ideas and reminding me of the need for caution in doing research. Dr. Zane Quible suggested to me the research population and aided me in contacting with the American Assembly of Collegiate Schools of Business (AACSB). Dr. John Gardiner also provided me with insightful suggestions and full support.

Other faculty members at Oklahoma State University, especially from the Department of Administrative Services and Business Education, deserve my appreciation for their support for and interest in my study. They are Dr. Clayton Millington, Dr. Herbert Jelley, Dr. Lloyd Garrison, Dr. Michael Folk, and Mr. Terry Johnson. A note of thanks is given to Mr. Charles W. Hickman, Associate Director Professional Development of AACSB, for sending me the materials from his national study.

Special thanks must go to my dear parents who always give me spiritual support and caring.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

THE RESEARCH PROBLEM

Introduction

Timely and appropriate instruction is crucial for bridging the gap between learning theory and professional application of business communication concepts at the collegiate level. Lecture and discussion have traditionally dominated the primary teaching methods in business communication. The instructor paces the class based on the syllabus, and the students are exposed to the same unit of instruction at the same time.

However, the computer was brought into the field of education in 1959 and has been extensively used since IBM introduced an instructional system in 1966. And the computer has had a continuous impact since that time. Computer-assisted instruction (CAI) considers students' needs, interests, and abilities required to progress toward goals and objectives at an individual pace. CAI is mastery-based learning; that is, students progress at their own rate and do not directly compete against their classmates. CAI combines attention to individual needs and step-by-step sequence of programmed instruction with mastery-based progression. Through interface with the computer, CAI allows instructional flexibility to meet the special needs of students.

Considering the goal of improving students' learning, CAI is a means

toward an end and not an end in itself. Over the years, CAI programs have shown advantages that far outnumber the disadvantages. For instance, several studies (Cross, 1980; Hazen, 1982; and Ingle, 1976) have shown that CAI can and does improve students' grammar and spelling.

In the era of information, new technology reflects an obvious impact on society and personal life. Because of this increased use of technological systems, Inman and Krajewski (1978) predict that more emphasis will be placed on business communication. Tesch (1982) further concludes that a trend for using the computer in teaching is a must. As a result, new technology provides new and exciting opportunities for business communication teaching.

Business communication teachers should be aware of the changes, trends, and educational implications that a computer can provide. In addition, teachers must be highly cognizant of the fact that computers and CAI programs can be used as an aid to more effective instruction in the area of business communication. Many educators (Herbert, 1983; Rossi, 1983; and Skaggs, 1982) advocate additional research in the field of CAI.

Statement of the Purpose

The purpose of this study is to provide information for the improvement of teaching business communication. Recommendations made by several researchers indicate that computer-assisted instruction (CAI) can improve communication skills of students. Consequently, a study of computer-assisted instruction as an aid to business communication teaching at the collegiate level appeared both timely and needed.

Statement of the Problem

The problem addressed in this study is an investigation of the status of computer-assisted instruction (CAI) in collegiate business communication courses at selected four-year colleges and universities accredited by the American Assembly of Collegiate Schools of Business (AACSB).

Research Objectives of the Study

This study specifically addresses the following objectives:

1. To assess AACSB business communication teachers' acceptance of and attitudes toward the use of CAI in business communication courses
2. To assess AACSB business communication teachers' perception of the effectiveness of CAI in business communication courses
3. To assess AACSB business communication teachers' perceived problems with CAI in business communication courses
4. To assess AACSB business communication teachers' perceived impact of CAI on business communication courses
5. To assess AACSB business communication teachers' perceived future development and use of CAI in business communication courses
6. To assess the software being used and developed by AACSB business communication teachers for business communication courses

Need for the Study

Several studies (Bonner, 1971; Hart, 1975; and Stoddard, 1980) indicate that American business ranks communication skills as its number

one priority. Other studies (Mrachek, 1980; and Warner, 1979) pinpoint communication skill deficiencies among college students.

As the use of the computer in education increases, a number of educators have applied CAI to the area of business communication. Fauley (1978) believes that academic institutions and industrial education training centers cannot afford to overlook the potential educational benefits associated with CAI. Herbert (1982) considers CAI as a better instructional aid than traditional instruction. He believes students can benefit in addition to the subject matter of business communication in the following ways:

1. Computer familiarity
2. Enjoyable learning
3. Flexible instruction schedules
4. Individualized instruction
5. Computerized evaluations (p. 32)

According to all indications, CAI will continue to be geared toward an instructor supervised system in the future (Ramlet, 1984, p. 3).

The Policies Commission for Business and Economic Education (1984) believes that business educators should use a variety of instructional strategies and the latest technology when teaching business communication. Business communication teachers are, as shown by the previous information, encouraged to use the computer in their teaching.

Many studies have shown that faculty attitudes toward CAI programs can determine if the programs will be successful. In her study on the factors affecting the success of CAI at the collegiate level, Potts (1980) points out that faculty support is the most frequently mentioned factor contributing to the success of CAI program implementation. Faculty contributions to CAI success include initiative, enthusiasm, leadership, open-mindedness, curiosity, and dedication (pp. 2-3).

Additional study of business communication teacher attitudes toward CAI is critical to its acceptance and support. Research is needed to identify the effectiveness criteria, overall impact, and future development of CAI on business communication courses. It is hoped that the results of this research will provide business communication teachers information for more appropriate and effective use of CAI in their business communication subject teaching.

Delimitations

This study was delimited to an investigation of those domestic educational institutions accredited by the American Assembly of Collegiate Schools of Business (AACSB) whose business communication teachers utilized computers in their teaching.

Limitations of the Study

1. This study was limited by the subjects responding to the AACSB questionnaire who might or might not possess adequate interest or understanding.

2. Because the study surveyed only AACSB schools using CAI, the findings will not be generalizable to non-AACSB schools.

3. This finding also will not be generalizable to non-CAI used schools.

Definitions

AACSB (The American Assembly of Collegiate Schools of Business)--a general nonprofit corporation comprised of member organizations and institutions devoted to the promotion and improvement of higher education

for business administration and management. Organized in 1916, AACSB is recognized as the sole accrediting agency for undergraduate and graduate degree programs in business administration by the Council on Post-secondary Accreditation and by the Office of Postsecondary Education, U. S. Department of Education.

Impact--refers to the improvement made in business communication courses as a result of the utilization of computer-assisted instruction, including such areas as spelling and punctuation.

CAI (Computer-Assisted Instruction or Computer-Aided Instruction)--refers to those programs where the computer is used to interact tutorially with the student as he or she moves through a self-paced program or course of instruction.

II (Individualized Instruction)--refers to the instruction that gears to the specific needs of the student and allows him or her to complete a certain level of mastery at his or her own pace.

Mastery Learning--refers to the pedagogical concept that learning must be thorough--one unit must be learned at least 95% accuracy and must be demonstrated in a competency before the next unit in the sequence is tackled.

PI (Programmed Instruction)--refers to a series of small frames to get immediate reinforcement, some adding "responsive" or "branching" programs, which respond to wrong answers as well as to correct ones.

Summary

Business communication is increasingly receiving attention because of its important role in daily life and business world. Assuming the responsibility for preparing the student with communication skills

through effective and efficient instruction, business communication teachers should be aware of the possible impact brought about from advanced technology on this subject. When the computer has been utilized as an instructional tool, an investigation of the status, use, suitability of computer-assisted instruction in business communication courses was needed.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

This study described computer-assisted instruction (CAI) used in business communication courses in the colleges of business accredited by the American Assembly of Collegiate Schools of Business (AACSB). The literature review centered on the following areas:

1. AACSB business communication teachers' attitudes toward CAI
2. Their perception of the effectiveness of CAI
3. Their perception of the problems associated with CAI
4. Their perception of the impact that CAI can bring about on business communication courses
5. The future of CAI for business communication courses
6. The sources of business communication software

To address the problem of this study, the review of related literature is presented in terms of (1) rationale for using CAI, (2) an overview of business communication courses, (3) teacher attitudes toward CAI, and (4) problems and perspectives of CAI.

Rationale for Using CAI

The potential of the computer for individualizing instruction is tremendous as many studies (Cross, 1976; Goodlad, 1971; and Margolin and

Misch, 1970) have shown that CAI is an instructional aid toward more effective teaching with the following advantages:

1. Student-centered learning. CAI aims at meeting students' needs and learning abilities.

2. Self-paced instruction. CAI allows students to learn at their own rate and provides flexible time arrangement in learning. Cross (1976) emphasizes that there is no embarrassment, no feeling of delaying the teacher or other students, no awareness of being "slow" in accomplishing the task (P. 63). This self-paced characteristic of CAI makes students enjoy learning very much.

3. Patience. Students experiencing the patience of CAI express particular learning pleasure. Because the computer is, as Goodlad (1971) describes, a tireless, relentless, and evaluating teacher (p. 91), students in those colleges which utilize CAI as a teaching aid react favorably to this instruction as varying from good to enthusiastic.

4. Feedback. CAI provides immediate feedback through an interface with the computer. Immediate feedback not only gives students positive reinforcement of their previous learning but also is essential for learning and influencing future performance (Feinberg, 1980, p. 47).

5. Practice. CAI provides repetitive exercises for students so they can accomplish the same or better learning in less time. Cross (1976) declares that the greatest advantage of CAI is in the reduction of the time required for learning (p. 62).

6. Variety. CAI increases variety to classroom activities that appear to arouse students' interests and motivate their learning.

7. Teacher availability. CAI increases availability of teachers to the individual student and promotes efficient use of class time. Because

CAI makes each student proceed at his or her own pace, Margolin (1970) states that the teacher is relieved of much tedious drill work and thus left with more time free to assist the students (p. 70). The utilization of CAI appears to increase teacher-student interaction.

8. Minimal administrative overhead. All testing and tracks are recorded by the computer that will save teachers time in preparing materials and grading assignments.

While a number of teachers believe the computer as an aid toward more effective teaching, some others perceive the computer as a fast and versatile "bookkeeping machine." The following discusses the disadvantages of CAI that have been often criticized:

1. High cost. The computer has been charged the most with its high cost that the initial installation and software purchase are expensive.

2. Limited software. The quality and feasibility of software always cause problems.

3. Time-consuming. The development of CAI is time-consuming and also requires a great deal of specialties and efforts. Rossi (1983) estimates that the initial time invested in a new CAI program is from 300 to 500 hours of development time for every hour of instructional time (p. 25).

4. Impersonal nature. The computer is a machine which is not as lively as an instructor. Students may get bored after they have interacted with the cold machine for a quite long time. Impersonal nature may demotivate students' learning in the long run.

5. Stifling of creative thinking. McDonald (1970) points out that computer systems are based on efficient and rational thought; however,

strict rationality is not always conducive to creative thought (p. 124). If this statement is correct, the long-range effect of the computer might bring about a stifling of creative thinking. Education by all means should provide the impetus for creative thought.

As shown by the above comparison of advantages and disadvantages, CAI appears effective as a teaching tool where advantages outnumber its disadvantages. The primary criticism is the cost of CAI installation; computer expenses can be decreased when the computer is applied to more instructional and administrative purposes. The development of new technology, especially the microprocessor and microcomputer, as well as the mass uses, contributes to the reduction of computer prices remarkedly in recent years. The hardware cost appears to be very low compared to what it once was. The cost of software, which followed the same pattern as that of hardware, has also decreased.

However, a caution must be made that even the advantages of the use of CAI can turn into shortcomings if it is overused and abused. For example, as an instrument the computer cannot and should not replace classroom teachers, or dysfunction follows. An establishment of objective criteria to evaluate a CAI program is needed.

In general, most studies favorably recommend the use of CAI. CAI has shown its interrelated merits by providing as much practice, feedback, and variety as needed for students in their learning process. An effective CAI is capable of helping students proceed along a course of instruction at their own rate. Its character of self-paced instruction and learner-orientation has gained students' interest and confidence in learning, thus shortened the time they might achieve their goals. From this standpoint that CAI allows students to accomplish the same learning

in less time and sometimes makes better overall achievement, CAI has met the requirement of teaching effectiveness in terms of student achievement.

An Overview of Business Communication Courses

Communication has been one of the essential human activities ever since man has existed on earth. As technology and marketing have been advanced and promoted, business communication has become increasingly important. In 1913, business communication courses were offered only in Boston University, USA. For the 1929-30 school year, 150 colleges and universities were found to be giving one or more courses each in the field of business correspondence (Boyd, 1976, p. 127).

Indicative of the trend in the field from narrow to broad coverage, from theoretical to practical application have been course name changes. Course titles such as "Commercial English and Correspondence" or "Business English" or "Business Writing" have been largely supplanted by "Business Communication." That current technological advances in word processing, data and information processing, and computer usage, will bring about tremendous changes on business communication teaching is both predictable and exciting.

The following section discusses (1) the role of business communication, (2) the course content of business communication, (3) the objective of business communication, and (4) the computer-assisted instruction used in business communication courses.

The Role of Business Communication Courses

Twenty-five years ago, Pierson and others (1959) suggested that

undergraduate general studies should require six semester hours for English Communication; and two to three semester hours for Business Communication be demanded beyond the core requirements for undergraduate business studies (p. 167). In his "Business Communication as a Competency-based General Education Course," Stoddard (1980) stresses the importance of effective written communication and urges that students should be expected to master it in a general education program (p. 51).

Because of the importance and necessity, business communication is commonly offered at both the graduate and undergraduate level as a required course in a variety of departments. Glassman and Farley (1979) conducted a survey of 142 AACSB accredited institutions in 1977 and found that 108 schools, seventy-six percent, offered at least one business communication course, with the major emphasis on written communication. Universities offering doctoral programs in communication are also increasing. The University of Texas at Austin, Department of General Business, for instance, has set up a Ph. D. program in business and organizational communication.

To address the needs of developing and enhancing communication courses, the AACSB has conducted a survey and found a growing need in this area. Brownell (1982) describes that,

> In recent years, the need for business graduates to show improved writing and speaking skills has been acknowledged by many educators and employers, and been widely reported by the media. Results of several recent AACSB projects, as well as additions to the accreditation standards also point to the growing significance of this concern (p. 109).

Consequently, the AACSB accreditation in communication has been in effect since 1981.

The Course Content of Business Communication

The development of business communication has been closely interrelated with changes in the economic, social, and business environment. When the economy is depressed and the job market competitive, course content emphasis has been placed on the letter of application, resume, and follow-up letter. When psychological and practical research in advertising and selling is in bloom, the emphasis is put on the sales and promotional letter, credit letter, and collection letter.

Another factor influencing the content of business communication courses is technological change. The typewriter, the telephone, the copy machine, the dictation and transcription machine, the word processor, and especially the computer, have all exerted great influence upon this course. The impact of technology in communication on the course content of business communication, as Smeltzer and Golen (1984) describe, is as follows:

> The invention of the typewriter and printing press led to an increased number of written documents; the universal use of the telephone dramatically increased oral communication. . . Computer storage, retrieval, and transmission will have a similar impact on business communication systems (p. 89).

The trend for business communication course content becomes increasingly more broad and more influenced by the new technology than ever before. However, the major content can be summarized and categorized into seven parts, as Dorrell and Johnson (1982) examine the topics covered in twenty college-level business communication textbooks. These categories include the following: (1) letter writing; (2) report writing; (3) principles of writing; (4) mechanics, grammar, format; (5) employment information; (6) oral communication; and (7) theory (p. 11).

The Objective of Business Communication

As defined by Quible, Johnson, and Mott (1981), communication involves the effective transfer of a thought or idea from one person to another person or persons (p. 7). The emphasis is put upon developing an ability to communicate ideas and thoughts with particular reference to the world of business. Therefore, the objective of business communication courses is to provide students with an understanding of the theory of communication with application for the real world.

Regardless of the increasingly broad course content and objectives, using correct grammar, spelling, punctuation, word usage, sentence structure, and diction are basic competencies that each college student should be required to master. A trend of shifting the course back to the basics has been under way as mentioned by numerous individuals. The following discussion is the summary of selected studies that promote this claim.

Stine and Skarzenski (1979) made a survey of business executives to determine what instruction should be included in college business communication courses. These participating executives listed vocabulary and word choice as the highest priorities.

Adkins (1982) conducted a survey to provide career information in which the business communication skills and knowledge as perceived by Kentucky businesspersons, college business communication teachers, and students were analyzed. The ability to use correct grammar and knowledge of the importance of written communication in business was ranked the highest by all three groups. Adkins recommends that college students should be made aware of the needed communication skills for the future employment.

By realizing the vital importance of effective communication to the successful business career, Hulbert (1981) further extends the rationale for the development of an effective vocabulary for managerial success. He proposes the following three criteria for an effective vocabulary:

1. Clarity of meaning
2. Conciseness
3. Consideration of reader (p. 325)

Clarity of meaning requires an extensive vocabulary and precise word choice to express ideas, thoughts, and feelings; whereas conciseness is a quality that enables one to say what has to be said in the fewest possible words without sacrificing completeness. An effective vocabulary must be simple, direct, clear, and appropriate for the reader's interest and experience. Hulbert called on a need for effective vocabulary and recommended that abilities in the use of language require a sincere interest and sustained practice. Only through continual and dedicated practice can a rich vocabulary be achieved.

Bohlman and Wunsch (1981) point out that business executives' negative attitudes toward writing results in little or no practice and in some cases, no respect for clear, simple writing. Business communities have been responding to the push for a simpler and better understood language by scheduling a sequence of writing seminars for professional people. These seminars are directed toward writing plain, simple, and understandable English in such a format that average lay people are able to understand and interpret without a professional aid.

This move toward simplification, as Morris (1982) describes, is also called the Plain English Revolution (p. 3).

Many business people surveyed indicate deficiencies in communication skills and abilities of recent business graduates. Allred and Clark

(1978) report that beginning employees who are college graduates and undergraduate business students have most difficulty in such areas as conciseness, clarity, and completeness (p. 31). They also stress a need for college students to improve spelling, sentence construction, organization, and paragraph construction.

These findings show a demand for college business communication courses emphasizing the planning and organization process as well as the syntax- and grammar-related activities. The current interest in and concern over the inability of some individuals to write reinforces the need for a required business communication course. The AACSB also promotes classroom experience that involves giving communication students needed instruction in mechanics, grammar, and format (Dorrell and Johnson, 1982, p. 13). Although the basic competencies, including such areas as grammar, word usage, and punctuation, are overwhelmingly demanded, business communication students should also possess the competencies that enable them to apply communication skills learned to the world of business.

The Computer-Assisted Instruction Used in Business Communication Courses

Traditionally, lecture and discussion are the dominant teaching methods used in business communication courses. Through the instruction, students should arrive at the basic understanding that communication is simply the transfer of ideas or thoughts from one person to another and that this transfer can take place in many ways.

It is clear that several philosophies have influenced the teaching methods of communication courses. Such philosophies as idealism, classic

realism, scientific realism, pragmatism, and existentialism, to one extent or another, have had an effect on the pedagogy of business communication. The following Table I (Sullivan, 1978, p. 34) summarizes these philosophies and their influences:

TABLE I

POSSIBLE INFLUENCES OF VARIOUS PHILOSOPHIES ON BUSINESS COMMUNICATION

Philosophy	Influence
Idealism	Emphasis on organization
Classical	Learning rules Importance of past practice Faith in uniform curriculum
Scientific Realism (Behaviorism)	Behavioral objectives Programmed learning Pre and posttesting Uniform behavior
Pragmatism	Use of case studies Use of role playing Emphasis on manipulating the business environment instead of merely existing in it
Existentialism	Stress on decision making Emphasis on responsibility for communication decisions

Among these philosophical approaches, behaviorism and pragmatism, in general, dominate the instruction of business communication; behaviorism,

in particular, affects the advent of computer-assisted instruction in the field of business communication teaching.

According to Atkinson (1969), CAI programs can basically be divided into three areas--drill and practice, tutorial, and dialogue systems (p. 144). The drill and practice approach is the simplest and most widely used form of CAI materials. Its major purpose is to complement instruction received from the teacher and to give immediate feedback concerning the correctness of the student's response. Virtually most of the written communication programs currently on the market are drill and practice oriented and are used for teaching spelling, vocabulary, grammar, and sentence building. Drill and practice programs are linear devices that make the programs relatively easy to write--faster with fewer errors. Wresch (1982) says this may explain why drill and practice systems are so popular among teachers (p. 485).

The major difference between drill and practice systems and tutorial systems is the use of branching rather than a linear sequence. In order to branch effectively, a tutorial program must keep a record of students' answers. Using a student's record and a computer's speed, tutorial systems are able to maintain constant and instant individualization. Tutorial systems move from one frame to another depending on how the student has performed on the previous question. Being done in a systematic way, writing such a tutorial program requires substantial knowledge of subject matter and programming.

Dialogue systems, according to Atkinson (1969), are those in which "the student is free to construct natural language responses, ask questions in an unrestricted mode, and in general exercise almost complete control over the sequence of learning events." (p. 144)

Featuring actual "communication" with the computer, the dialogue level appears to reach the most complex stage. Most dialogue systems incorporate simulated-conversation technique through the use of terminals; and, as Ingle and Munsterman (1976) describe, these systems probably represent the ideal in CAI (p. 47). An example of a revolutionary dialogue system is Leachim, the robot Leachim. The robot, actually communicates verbally with students using a variety of CAI programs.

The following summarizes some related studies from journal articles and on-line search to see the current use of CAI in this area:

Michael and Sliger (1976) implemented the Language Arts Routing System (LARS), a computer-assisted instruction facility located at the University of Illinois at Urbana-Champaign. The LARS is a package of lessons and tests designed to provide remedial training in certain basic language skills, including spelling, word usage, grammar, and punctuation, in addition to the student's progress report. The system may be used by itself or as an adjunct to regular in-class instruction.

Another similar study by Jordan (1976) was designed to serve instructors as a guide for incorporating PLATO courseware into their teaching activities. Each course entry includes a file name (for on-line access), descriptive title, author's name, objective, description, student time, grade level, and subject area. Courses deal with capitalization, composition, editing, grammar, punctuation, research, spelling, word usage, and vocabulary.

Briand (1978) describes the use of technology in teaching composition from a historical viewpoint. Teaching composition began with a few filmstrips on grammar, slide-tape presentations and overhead

projectors on stimulating writing, and videocassettes on evaluating writing in class. Finally, computer-assisted instruction started its role in teaching spelling, punctuation, grammatical errors, and other mechanical aspects of writing. Briand recommends that a computer can count the frequency of various types of clauses, phrases, verbs, and sentences so that students can discover ways to increase the variety in their writing. Such mechanical analyses also help students in selection of topic, organization and development, word usage and writing style.

Horodowich (1979) developed the Instruction Dialogue Author Facility (IDAF) computer program to teach clause analysis in college writing classes. The IDAF is designed to analyze clause structure by using a mixture of theory and practice related to tagmemic analysis. In the composition process, students are encouraged to make use of computers to create complex and compound-complex sentences. Through this clause analysis approach to writing, students understand the options they have in creating their writing styles.

Selfe (1982) reports that computer-assisted instruction can be useful in teaching students the processes involved in revision. WORDSWORTH II, a cooperative venture of English teachers and computer scientists at Michigan Technological University, is designed to provide students with various stages of rethinking and rewriting efforts. Consisting of eight process-based modules, the program offers sophisticated and interactive writing assignments, such as, description, classification, evaluation, persuasion, and creative writing. WORDSWORTH II teaches students how to give priority to larger concerns of aim and audience when they write early drafts; how to examine problems of focus, development, and arrangement in middle drafts; and how to work with

concerns of style and surface structure only in later drafts. This program basically involves two sections: (1) planning, and (2) polishing. The planning section of each module includes brainstorming, focusing, organizing plot lines, and constructing audience profiles; while the polishing section includes revising, recasting, and proof-reading.

Golen (1982), at Louisiana State University, introduced data processing as a tool in the business report writing class. Through using of this tool, he indicates that students reinforce their understanding of a previously learned business process and analyze the process step-by-step. Then through analyzing the process and charting the steps, students have to sort out carefully the functions in their minds and place them in a logical order. Furthermore, by writing the steps in logical order and in concise and simple sentence, students gain a more thorough understanding of the process while, at the same time, they improve their written communication skills.

Boes and Bernardi (1982) urge the use of the computer as a teaching tool in business communication classes. Computers are useful in general for good-news, bad-news, and persuasive letter writing, and particularly, for bad-news letter writing. They demonstrated the negative letter writing technique by utilizing the computer at Berea College. Avoiding the use of negative words, phrases, and trite expressions by practicing on a computer, students improve their writing ability and style. The computer also can check for proper format for a letter. Boes and Bernardi conclude that one of the most important aspects of training a person for a business career is communication training. Using the computer as an instructional aid will accomplish the most important task

for this training and increase the efficiency, thus, will provide evidence supporting for the improved productivity of business communication teachers.

Herbert (1983) discusses that the University of Wisconsin at Whitewater uses microcomputer and word processing laboratories for teaching business communication courses. This approach is based on the following considerations:

1. Students are weak in the basic punctuation skills needed for effective writing.

2. Different degree of deficiencies exists among students.

3. Current curriculum is too crowded to add new courses; the alternative to enhance students' business communication competencies is through the computer and software modification.

As a result of the computer practice and software modification, both teacher and student react favorably to the value of the learning activity; and the student improves his/her skills in business vocabulary, spelling, punctuation, and word usage. Additional value to those business communication students gained from the computer program development is computer literacy. Consequently, Herbert recommends a wise action which is an investment of time in learning the essentials about computers, in learning about available software, and in developing suitably modified software.

Lemaster (1985) states that a number of the basic elements of business writing lend themselves directly to computer-assisted instruction. Drill and practice programs are well suited to the mechanics of language arts instruction. He presents his experience in developing those programs for spelling, punctuation, typing and number

style, word discrimination, and grammar. The spelling and punctuation packages have great value in checking for typographical errors and repetitive work. The typing and number style package can check for proper capitalization and ways to type days, dates, addresses, amounts of money, and abbreviations. Word discrimination includes homonyms and pairs of words which sound very close. Lemaster recommeds that many basic aspects of business writing can easily be adapted to a CAI approach. When the computer is used in conjunction with other methods--as a resource and even as a reward--both students and teachers will benefit.

Teacher Attitudes toward CAI

Research has demonstrated that teacher attitudes can inhibit or inspire student achievement (Braun, 1976; and Cantrell et al., 1977). Despite the recognized importance of teacher attitudes toward student achievement, research has not examined the relationship between teacher attitudes and effective computer-assisted instruction.

People's reactions to new technology or change vary. Most people appear to resist the process of change and such concomitants as fear, anxiety, and uncertainty. In a similar way, many teachers resist using the computer when teaching their subject matter, in part because they are not sure what the computer can possibly do for their classes and because they are afraid of being replaced by the machine. This mixed feeling along with educational consevatism causes negative teacher attitudes toward CAI. Also a lack of knowledge about CAI compounds the problem of disinterest in the use of CAI. The complexity of issues concerning teacher attitude toward CAI may explain the weak support from teachers.

As a matter of fact, being developed as an instructional aid, CAI exists for the purpose of enhancing the effectiveness of classroom teaching. CAI does not replace teachers but is a tool to supplement them, in the same manner that textbooks, films, and libraries do. Although some subjects or some part of the subjects might be taught by computers alone, this is no substitute for classroom teaching since computerized instruction can offer only limited types of presentations, and cannot answer all of the students' questions. Teaching, on the other hand, demands an instructor for a balanced presentation and human interaction. More interesting is a recent claim (Nemesh and Nemesh, 1979) that in some applications CAI can increase student-teacher interaction; that is, a well-planned CAI system frees the teacher from routine teaching tasks so that more time can be devoted to individual students (p. 170). Specifically, the routine teaching tasks include providing such functions as remediation, basic information, drill and practice.

Although some literature informs the administrator or instructor about the capabilities of CAI and its varying degrees of effectiveness, only a small amount of literature is devoted to discussing the degree of acceptance and implementation of CAI at the collegiate level. Holms (1982) indicates that teacher acceptance of the implementation of CAI is likely to be the second greatest obstacle, after cost (p. 7). One probable obstacle to teacher acceptance is the fact that the reward structure for teachers rarely motivates them to implement such an effort-demanding program. According to Holms, a teacher is usually rewarded for years of satisfactory service rather than for the time, energy, and initiative required for implementation. He further explains

that teachers may adopt change,

> . . . if the change provides students with more of the same experiences traditionally associated with the classroom, if it [the change] increases student motivation, and if it [the change] increases student competence (p.9).

Potts (1980) had examined CAI programs in selected colleges and universities to determine the factors that impact on the success of CAI programs. She posed 15 questions to academic computing directors and CAI program administrators who deemed faculty attitude and support as the most important factor in determining the success of CAI programs. The following are some selected conclusions from her study which are related to teacher attitudes toward CAI:

1. Faculty support is the most important factor contributing to a successful CAI program and faculty members are the ones most often responsible for a school's initial involvement with CAI.

2. The majority of schools do not encounter open opposition from faculty or organizations in establishing CAI.

3. The range of faculty members presently using CAI as an instructional tool or technique extends from three percent to 50 percent.

4. None of the institutions surveyed has had to reduce its instructional personnel due to CAI implementation.

The process of the adaptation of CAI at the collegiate level appears very slow. Change cannot take place unless people bring it about; and people with an attitude of no open opposition can bring about only minor change. One of the major responsibilities of educators is to develop the instructional use of new technology. The teacher, of course, should get involved in planning CAI and supervising its operation with good

attitudes. These attitudes are part of the contributions of faculty to success of a CAI program, including initiative, enthusiasm, and open-mindedness. Teacher conservatism appears evident which may attribute to the slow acceptance and development of CAI in business communication field.

Willing cooperation from teachers is not easy to obtain, but it is a vital ingredient in the implementation process. Educators wishing to implement a CAI program should be fully aware of the critical importance of teachers' attitudes and the degree of their resistance to change. On the part of teachers, as Hocking (1983) recommends, an open mind about the possibilities that the computer may offer should be kept. More related issues will be discussed in the next section: Problems and Perspectives of CAI.

Problems and Perspectives of CAI

Computer-assisted instruction, which is still at an infant stage, will present many problems, as well as opportunities. The majority of research indicates that the problems teachers have encountered in establishing a CAI program are the great amounts of time and money needed to get a full-fledged program operational. Nicholl (1982) points out that although the availability, economy, and independence of micro-computers have helped renew interest in computer-assisted instruction in English teaching, at present, six things are hindering the use of CAI in college-level English:

1. Lack of money
2. Educational conservatism
3. Current hardware deficiencies

4. English teachers' lack of interest in and knowledge of computers

5. Lack of knowledge of how people learn

6. Scarcity of CAI software (p. 24)

However, future development, as Nicholl predicts, will sweep away these hinderances; and by 1992, most teachers and students will have, and will be writing on, microcomputers. Learning centers will have libraries of CAI.

McDonald (1970), from a teacher's point of view, raises eight problems to be considered before and after installation of CAI programs; some of them are consistent with Nicholl's. McDonald points out such problems as technical competence of current staff, competence of the administrator, and programming for CAI that require careful assessment (p. 120).

Potts (1980) conducted a survey of 14 colleges and universities to determine the problems related to the implementation of a CAI program. The greatest obstacle is financial. Lack of administrative support, courseware, and faculty development for courseware are ranked next.

In an interview, Dr. Michael Folk (1985), Professor of the Department of Computer and Information Science at Oklahoma State University, also pointed out his similar findings that CAI is not seriously considered by the subject matter instructors because the quality of CAI programs and software is still poor. He mentioned that institutions would like to install costly equipment rather than spend money in faculty training and software development. Actually, schools are ignorant of the investment of manpower, software, and maintenance in which a little fair investment will tremendously benefit schools, teachers, and students.

Software development and maintenance demand more people time than hardware installation. Faculty members are responsible for the improvement of the quality and technique related to CAI programs. Dr. Folk further identified the following factors that would help achieve the success of a CAI program:

1. Institutions should provide fair, high pay for CAI people. Only can reasonable and acceptable salaries retain trained CAI people in their positions and get their commitment to CAI. A full time CAI staff system should be established to solve the problems concerning technical competence and courseware development. Those interested in CAI who have to sacrifice their Christmas breaks or spare time to develop CAI cannot survive long; neither can they commit themselves to the development and improvement of CAI.

2. Institutions should encourage the use of CAI as a library. When people use CAI as a part of their lives, not for "fashion," CAI is successful.

Lack of technical competence in software development is one of the chains in the problem cycle. The heart of any CAI system is the software. Blaschke (1979) explains lack of adequate software is the main reason why CAI has not been as successful as was first anticipated (p. 26). This problem is one that implementors of CAI should face prior to the purchase of any equipment. Then CAI users should consider the criteria for selecting good software. Bourque (1983) presents six general principles to select software.

1. Substantive soundness. The program should, of course, be based on the latest and best research in the discipline.
2. Pedagogical soundness. Any good CAI program should be based on

sound pedagogical premises already established by the discipline or should be supported by sound and specific documentation defending a new pedagogical approach.

3. Efficiency. A computer program is not to be judged by the efficiency of its bulk, but by its quality.

4. User friendliness. The computer program should be easy to use, even for students or faculty who know nothing about computers. The benefits of CAI cannot be realized if students have to spend time just learning how to operate the system. They become quickly discouraged or bored.

5. Documentation. No program should be dependent on the availability of its author for use or further development. The program's functions should be properly explained in the program itself and with additional written material if necessary.

6. Demonstrated use. Evidence that a program is being used locally, regionally, or nationally can provide further indication of the worth of the material (p. 73).

Obviously, the single most important truth about the educational computing program is the quality of software. Komoski (1984) clearly states, "The quality of educational computing in a school is going to depend on the quality of the software selected for use in that school and on the way in which the use of that software is integrated into the overall curriculum." (p. 245) Quality software is extremely critical.

Holms (1982) identifies three sources to obtain software, each offering its own advantages and drawbacks. The first source is externally-created packages. With the ready-made package, a CAI facility can go fully operational quickly. However, disadvantages also exist. The required programs are often not available on the desired hardware, and in-house conversion is usually impractical. In short, some packages are not appropriate as a basis for a substantial, continuing CAI facility. The problem may be compounded if the software has been orginally devised by the use with a given text.

The second source is to obtain an externally-produced template

system; that is, the teacher can insert his or her own pedagogical materials into predetermined lesson formats through the ready-made program. The advantages are that the teacher can, in a relatively short span of time and with little knowledge of computer programming, tailor CAI materials to the needs of his or her own students. This software modification is also recommended by Herbert (1983), as mentioned previously. However, the lesson formats are already standardized and therefore inflexibility may make students bored. The final source is in-house production. The most satisfying is that custom programs can be created for specific needs. But in-house production is also the most costly in terms of time, energy, and money required (p. 12).

Potts (1980) also extended her survey to the sources of software at the collegiate level. The breakdown of the sources surveyed indicated that 63.8% of software was produced within the school, 21.7% was purchased from vendors, and 14.5% was acquired from another college or university. Potts explains that software is developed within institutions by teams of subject matter instructors and computing personnel; and the team approach is more satisfactory and productive than other sources. Team efforts increase the use of software and appear to contribute more software exchange with outside schools.

Computer vendors are also becoming increasingly involved in software production. Those manufacturers seem to see this area as a promising new market, as well as a means of strengthening their hardware sales. However, they are profit oriented and may not strive for the improvement of software quality. Komoski (1984) points out the marketing strategies vendors utilize have more to do with a company's success and profitability than with the quality of its products (p. 246).

Hocking (1983) presents her study of the impact of microcomputers and finds that lack of equipment, inability to obtain a suitable room to set up, and equipment breakdown are common complaints. Physical arrangement or site preparation is a nonobvious problem and cost in addition to the start up cost of a CAI program. Many implementors feel bothered because they have not expected these "unexpected" costs when establishing a CAI program. These problems, however, do not hinder her recommendation for using the computer in teaching composition and communication courses. She mentions the greatest benefit that computers bring about for her classes is that students work harder at writing their papers than before.

As time passes, new technology is advanced, and teacher support for the use of CAI is confirmed, the current problems with CAI will be solved. This is why human beings are evolved and why they get advanced.

Summary

Despite the growing presence of computers in U. S. colleges and universities, computer-assisted instruction in business communication courses remains a very small fraction of the total instructional system. Several factors are attributed to this result, including the following:

1. Most teachers have little knowledge of how to use computers.
2. Teachers' adoption to the new technology is slow.
3. The financial and technical problems for developing CAI programs should be overcome.

However, many studies advocate the potential educational benefits of implementing a CAI program for business communication courses. The

benefits include providing students with more learning experiences, more reinforcement, and more competencies than are provided by traditional instruction. The most obvious one is the increased achievements in word usage, grammar, punctuation, and overall writing skill.

CHAPTER III

RESEARCH DESIGN AND PROCEDURES

This descriptive study involved a survey designed to collect data in response to the problem and research objectives as listed in Chapter I.

The design of this study will be broken down into the following sections to research the problem, plan the study, conduct the survey of AACSB institutions, and present the results of the study:

1. Review of related literature
2. Development of the research questionnaire
3. Selection of the population
4. Preparation of the cover letter and follow-up letter
5. Collection of the data
6. Analysis and interpretation of the data

Review of Related Literature

Literature, including professional publications and an on-line data base search dealing with business communication subject matter and computer-assisted instruction, was examined to determine whether similar studies had been conducted. The literature review could also determine the status, use, and suitability of CAI in business communication courses. Sources included the Business Education Index (1974-1984), the Index to Doctoral Dissertations in Business Education 1900-1975 (1975), Needed Research in Business Writing (1983), the ERIC computer search, and

numerous journal articles.

Development of Research Questionnaire

The research instrument designed to collect data for this study was a five-page questionnaire developed after a thorough review of the literature and other questionnaires concerning business communication and computer-assisted instruction. A panel of experts was used to test the validity and reliability of the questionnaire. With expertise in business communication and/or in computer-assisted instruction, the panel of experts was formed from the departments of administrative services and business education, computer science, higher education, and curriculum instruction education. These experts included the dissertation adviser, Dr. Dennis L. Mott, and the committee members: Dr. Zane K. Quible, Dr. Jane N. Hammer, and Dr. John J. Gardiner; Dr. Michael Folk from Computer Science; Dr. Clayton Millington from Administrative Services and Business Education; and Mr. Malcolm Phelps from Curriculum Instruction Education. After consultation with the dissertation adviser and with the panel of experts, the questionnaire was revised and redesigned in wording, clarity of content, and sequence of the questions.

The final three-page questionnaire was printed on 8 1/2 x 11 inch paper, with material printed on the front and back for the first two pages and the single side for the last page. (See Appendix A.) The unsigned nature of the questionnaire helped keep the information confidential. However, an identification number was used to track the follow-up letter.

The questionnaire was divided into four parts:

1. General information

2. Agreement or disagreement on the Likert scale questions

3. Priority order of the problems with CAI and current software in use

4. Comments section

The questionnaire was designed in an easy-to-answer format to facilitate ease of completion by the respondents and to aid the tabulation of responses by the researcher. With complete instructions at the beginning of each part of the questionnaire, the questions were formulated to be clear, concise, and logical.

Selection of the Population

The population for this study included those AACSB institutions identified by a 1984 survey conducted by the national AACSB office regarding the utilization of computer-assisted instruction as a teaching aid for business communication courses.

The teachers selected to participate in this study were required to meet the following criteria:

1. They must teach a course in business communication.

2. They must utilize computer-assisted instruction as an instructional aid.

3. They must teach at an AACSB accredited college or university in the continental United States.

Preparation of the Cover Letter and Follow-up Letter

The questionnaire was distributed to the AACSB member institutions

that were selected to participate in the study. The mailing included a cover letter, a questionnaire, and an addressed postage-paid return envelope. Letters were addressed to the deans of Colleges of Business with a request that the dean forward the letter and questionnaire to the appropriate person who must teach a course in business communication. College of Business includes College of Business Administration or College of Business and Economics.

The cover letter was individually printed for the purpose of transmission and encouragement of assistance from those AACSB accredited schools. Each letter was cosigned by Dr. Dennis L. Mott, dissertation adviser, on Oklahoma State University, College of Business Administration stationery. (See Appendix B.)

Approximately three weeks after the original mailing, a follow-up letter, a copy of the questionnaire, and an addressed postage-paid return envelope were sent to all nonrespondents. The follow-up letter was an additional attempt to encourage higher return rates. Each follow-up letter was also cosigned by Dr. Mott on the original Oklahoma State University, College of Business Administration stationery. (See Appendix B.)

Mailing envelopes with the dissertation adviser's return address typed on them were used for mailing the cover letter, questionnaire, and return envelope. The return envelopes also had the dissertation adviser's office address typed on them. Stamps were used on both the mailing envelopes and return envelopes.

Collection of the Data

Questionnaires were mailed to 76 AACSB accredited schools as

identified by its national survey on computers in business communication. The following was the timetable for the 76 mailings:

1. Original mailing--February 15, 1985

   Date requested for return--February 28, 1985

2. Follow-up mailing--March 6, 1985

   Date requested for return--March 19, 1985

Sixty-two questionnaires were returned, which was a 81.6 percent return rate. Of those returned, seven were blank and judged to be nonusable because of the following reasons:

1. Two schools are planning to use CAI in business communication next year. Currently they cannot provide information but some would like to get a copy of this study.

2. Three schools replied that they have managed to equip a microcomputer laboratory for word processing, graphics, and other specialized applications but their current programs may not qualify for this study.

3. One school offers business communication courses in the College of Liberal Arts rather than in the College of Business. It simply returned the questionnaire instead of making a referral.

4. One school replied that it does not have a business communication course.

A detailed analysis of the returns and nonreturns is reported in Table II on page 39.

In checking with some nonrespondents by correspondence, the researcher summarizes and analyzes the reasons of no responses as follows:

1. Some schools were not sure that their programs qualified them to answer the specific questions raised in the questionnaire. They had

TABLE II

DISTRIBUTION OF THE POPULATION BY RETURNS AND NONRETURNS TO THE QUESTIONNAIRE

Category	Number	Percent Total (N=76)
Total institutions in population	76	100.0
Total nonrespondents	14	18.4
Total respondents from original mailing	52	68.4
Total respondents from follow-up mailing	10	13.2
Total respondents	62	81.6
Total usable returns	55	72.4
Total nonusable returns	7	9.2

trouble distinguishing among computer-assisted instruction, microcomputer usage, and word processing.

2. One school replied that it might be a mistake to answer the AACSB survey that it is currently using computers to teach business communication.

3. Two respondents of the AACSB survey provided school names but did not show their specific campus locations where several campuses are possible. The researcher sent the questionnaires to the wrong campuses in which no CAI programs were offered.

Analysis and Interpretation of the Data

After the questionnaires were returned, responses were coded and keyboarded on a terminal using a Statistical Analysis System package. The data from the questionnaires revealed frequency, cumulative frequency, percentage, and cumulative percentage. The mean, standard deviation, and correlation coefficient were computed for each Likert scale question. A further analysis and interpretation of the study is presented in Chapter IV.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF THE DATA

The "Questionnaire Survey of Computer-Assisted Instruction (CAI) in Business Communication Courses in AACSB Accredited Schools" was sent to the 76 institutions identified by AACSB as currently using computers to teach business communication courses. The data obtained from the questionnaire determined teacher preferences and the status, selection, and suitability of computer-assisted instruction in business communication courses. Findings included in Chapter IV were derived from a detailed analysis of the responses to the questionnaire.

Method of Analyzing the Data

Section I of the questionnaire was designed to gather general information about the business communication instructors and courses in each institution that responded to the questionnaire. Questions concerning the present rank of the respondents, amount of experience in teaching the subject matter, school enrollment, class size, and the weekly average hours students spend with the computer outside of class were included in section I.

Section II was designed to generate information concerning teacher attitudes toward computer-assisted instruction (CAI) in business communication courses. This part was particularly designed to provide information for the following research objectives:

1. To assess AACSB business communication teacher's degree of acceptance and preference for using computers to teach business communication

2. To assess AACSB business communication teacher perception of the effectiveness of computers in teaching business communication courses

3. To assess AACSB business communication teacher problems with using computers in business communication courses

4. To assess AACSB business communication teacher judgment of the impact of computers on business communication courses

5. To assess AACSB business communication teacher perception of the future development and use of computers in business communication courses

6. To assess the software being used and developed by AACSB business communication teachers for business communication courses

Section III was designed to rank, in order of perceived importance, the problems, type of business communication applications, and the sources of software currently in use. Space was made available for respondents to list specific software packages and their ranking of these packages.

Section IV of the questionnaire was designed to collect comments concerning future applications of computers in business communication courses, and its potential, and the problems related to using computers in business communication instruction.

A Statistical Analysis System package was utitlized to tabulate the responses to each item in the questionnaire. The results from each response to a question were tabulated according to frequency of

occurrence, cumulative frequency, percentage, and cumulative percentage. A linear correlation coefficient was used to measure significance between the Likert scale items. Tables of specific findings are presented in the data analysis section.

Data Analysis

Sixty-two responses, of which 55 were usable, were received from 76 institutions. Among the 62 returned questionnaires seven were blank with the following explanations:

1. Two schools are planning to use CAI in business communication next year, but currently, they cannot respond to this questionnaire.

2. Three schools have equiped a microcomputer laboratory for word processing, graphics, and other specialized applications but do not believe their current programs qualify for this study.

3. One school offers business communication courses in the College of Liberal Arts, not the College of Business. It simply returned the questionnaires without referral.

4. One school did not have a business communication course this term.

Analysis of the usable 55 responses is divided into five parts: (1) an analysis of general information about the respondents including rank, school, and class; (2) an analysis of attitudes of business communication teachers in relation to the use of computers in teaching their subject matter; (3) an analysis of the priority ordering of software applications and computer problems; (4) an analysis of the perceived potential and the problems of computers in business communication courses; and (5) a

correlation comparison of various Likert scale items included in the questionnaire.

Analysis of General Information

This part of the questionnaire (questions 1 through 7) was subdivided into seven areas:

1. The present rank of the respondent
2. The approximate student enrollment at the respondent's institution
3. The number of years the respondent has been teaching business communication courses
4. The number of sections
5. The student enrollment in the respondent's classes
6. The times the class of the respondent met
7. The computer contact hours spent by the respondent's students outside of class

Nineteen (34.5%) of the respondents were professors; 16 (29.1%) were associate professors; and eight (14.5%) were assistant professors. Other respondents included six lecturers, three instructors, and three others who were described as a program director, an adjunct professor, and a temporary associate, respectively.

The typical size of school enrollment of the respondents' institutions was between 10,000 and 15,000 (30.9%), with 18.2% falling below 5,000. Only three (5.5%) indicated an enrollment greater than 35,000. Most of the responding schools (72.7%) had below 20,000 students.

The majority of the business communication teachers (36.3%) had between six and ten years of business communication teaching experience. Sixteen (29.1%) had less than five years of experience. The next smallest category of nine respondents (16.4%) involved those who had taught from 11 to 15 years. These three categories constituted the major component (81.8%) in terms of teaching experience.

The average class size of the respondents was determined by dividing the number of sections a teacher taught by the total number of students he/she indicated were enrolled. Over three-fifths (63.6%) of the responding institutions reported an average class size of fewer than 30 students. Twenty-eight (50.9%) of the respondents indicated their average class size was 21 to 30. Seventeen (30.9%) were between 31 to 40 and one respondent indicated a class size over 60.

The majority of respondents, 38 (69.1%), indicated their students spent less than three hours per week with computers outside of class. Fourteen (25.5%) reported four to seven hours. Therefore, approximately 95% of the respondents indicated an average weekly CAI contact for their students of less than seven hours.

Two-fifths, or 22 (40%), of the respondents reported that they taught two sections of business communication classes for the Spring term of 1985; 16 (29.1%), one section, and 15 (27.3%), three sections. One respondent in charge of a Composition and Communication Program directed 13 sections; the other, also a program director, 20 sections.

The class length for over half of the respondents, 29 (52.7%), was 50 minutes with each class meeting three times a week. Two-fifths met two times a week for 75 minutes. Three respondents reported that their classes met 50 minutes four times a week and one responded that the class

met 70 minutes twice a week over two terms. See Appendix C for detailed general information about this part.

Analysis of Business Communication Teachers' Perceptions of and Attitudes toward CAI

The second part of the questionnaire (questions 8 through 23) was designed to obtain information concerning the perceptions and attitudes of business communication teachers toward the use of computers as a teaching aid in their subject field. They were asked their attitudes about CAI effectiveness as well as possible problems and the impact upon the field. The respondents were requested to rate the 16 items on a five point Likert-type scale ranking from strongly agree, to agree, no opinion, disagree, and strongly disagree. (See Appendix A for the complete questions.) Table XVI, pages 108-115, on Appendix C contains an analysis showing the distribution of responses to each of the 16 statements.

Twenty-two (40.0%) of the respondents strongly agreed with the statement of personal acceptance and support for using CAI as an aid to teaching business communication courses. Nineteen (34.6%) indicated agreement while 13 (23.6%) had no opinion. Overall, with a mean of 4.1, nearly three quarters of the respondents had a favorable opinion relative to the use of computers as a teaching aid.

More than 95% of the respondents agreed that faculty members are most responsible for initial involvement when their schools establish a computer-assisted program. Nearly 42% strongly agreed and 55% agreed to faculty being most responsible for implementation of CAI. The next question about the importance of faculty attitudes in the successful

implementation of computer-assisted instruction received 100 percent positive agreement. These two questions produced a mean of 4.4 and 4.7, respectively.

However, when asked whether CAI represents a viable alternative to traditional instruction in the teaching of business communication, only half (50%) of the instructors agreed with this opinion; eight (14.6%) said "strongly agree," and 19 (34.5%) said "agree." Ten (18.2%) indicated no opinion while 18 (32.7%) disagreed with the use of CAI as a good instructional aid in teaching business communication courses.

When asked if CAI is an effective instructional aid, 33 (60.1%) expressed agreement; eight (14.6%) strongly agreed and 25 (45.5%) agreed. Ten (18.2%) strongly agreed while 34 (61.8%) agreed that CAI is a suitable student-oriented teaching aid for business communication.

No one strongly agreed with the opinion that utilizing CAI reduces an instructor's contact hours with students, while more than 65% of the respondents disagreed with this statement. Specifically, nine (16.4%) agreed, nine were without opinion, 22 (40%) disagreed, and 15 (27.2%) strongly disagreed.

Approximately 71% of the respondents believed their students were interested in utilizing CAI in their business communication classes. Ten (18.2%) strongly agreed and 29 (52.7%) agreed. Less than 10% indicated their students reacted negatively to CAI.

More than 70% of the respondents found that problems relating to software and maintenance were greater than those related to hardware installation when establishing CAI in their business communication programs. Eighteen (32.7%) strongly agreed and 22 (40%) agreed with this issue while five (9.1%) disagreed and two (3.6%) strongly disagreed.

Concerning positive institutional involvement in implementing CAI for business communication, 45 (81.8%) agreed. Seventeen (30.9%) expressed strong agreement and 28 (50.9%) indicated agreement.

Less than 30% agreed that their local administrators have taken a clear stand in support of CAI for business communication. Twenty (36.3%) indicated no opinion, 16 (29.1%) disagreed, and three (5.4%) strongly disagreed.

Four-fifths of the respondents agreed that CAI provides a significant contribution to the effective teaching of business communication. Only one respondent replied with a strong negative response. The next question concerning the increased use of CAI in teaching business communication also received strong favorable weighting. Thirteen (23.6%) indicated strong agreement and 31 (56.4%) agreed. Two replied disagreement and no one strongly disagreed.

Almost half (45.5%) of the respondents indicated no opinion about whether business communication instructors possess open minds in regard to the possibilities of CAI. The remainder of the respondents agreed slightly more often than they disagreed with this statement, with nearly 33% agreeing and 22% disagreeing.

The software problem is critical. As mentioned before, problems of acquiring and developing quality software are more difficult to overcome than those of hardware. When the respondents were asked whether current CAI software provides a thorough knowledge of the subject, only 5.5% agreed and 70% reacted negatively, with 38.2% disagreeing and 32.7% strongly disagreeing.

The respondents reacted to whether CAI software for business communication is user friendly; two (3.6%) strongly agreed and 15 (27.3%)

agreed. Twenty-one (38.2%) disagreed with this statement while 17 (30.9%) did not indicate either agreement or disagreement.

Analysis of Priority Order of CAI Problems and Software Applications

Respondents were requested to rank order in order of perceived importance (1) the problems they encountered in establishing CAI for business communication at their institutions in order of perceived importance, (2) the business communication applications used in terms of effectiveness, and (3) the sources for CAI software. Seven problems were listed in the questionnaire. Space was also provided to specify other problems not included on this list.

Table III on page 50 shows that over two-fifths (41.8%) of the respondents ranked "lack of financial support and funding" as the number one problem they faced in dealing with the implementation of a CAI program for business communication courses. Less than two-fifths (38.2%) ranked "lack of CAI software" second. Nearly 30% considered "lack of knowledge of CAI by business communication instructors" as the third most important problem. See Appendix C for detailed information.

Five respondents ranked "other" as their number one problem in this question. Specific items they mentioned included "lack of time for planning a laboratory." Three mentioned as their number two problem "developing software takes time." They further explained, "We have the resources, but we just cannot speed things up." These statements appear to echo the first and second ranked problems listed above. However, "lack of financial support and funding" is a contributing factor to the other items in the list.

TABLE III

PROBLEMS ENCOUNTERED IN ESTABLISHING CAI FOR BUSINESS COMMUNICATION IN AACSB ACCREDITED SCHOOLS IN RANK ORDER OF IMPORTANCE

Item	Rank	Percentage
Lack of financial support and funding	1	41.8
Lack of CAI software	2	38.2
Lack of knowledge of CAI by business communication instructors	3	27.3
Lack of time for development of CAI software	4	21.8
Lack of faculty support	5	20.0
Lack of interest in CAI by business communication instructors	7	18.2
Lack of administrative support	7	18.2

When respondents were queried as to which business communication application of CAI was the most effective, 20 (36.4%) of the respondents felt that CAI can be used most effectively in teaching spelling. The second most effective application was word usage with a 25.5 percent of agreement. Grammar and sentence arrangement tied as the fourth most effective applications. Punctuation received the fifth place followed by reinforcement of previous learning. Stylistic analysis ranked next followed by diction and graphics. Table IV on page 51 shows the overall rank of business communication applications. (A detailed breakdown of this information is attached as Appendix C.)

TABLE IV

RANK ORDER BY EFFECTIVENESS OF BUSINESS COMMUNICATION APPLICATIONS OF CAI IN AACSB ACCREDITED SCHOOLS

Item	Rank	Percentage
Spelling	1	36.4
Word usage	2	25.5
Grammar	4	20.0
Sentence arrangement	4	20.0
Punctuation	5	18.2
Reinforcement of previous learning	6	16.4
Stylistic analysis	7	14.5
Diction	9	12.7
Graphics	9	12.7

Some respondents specified "other" as their number one CAI application and mentioned such things as:

1. Editing text and letter placement
2. Revising paragraph organization
3. Clarifying ideas
4. Developing word processing skills, electronic mail, and document preparation

The respondents also mentioned that CAI can be used as a means of presenting memoranda and letters for business communication assignments

and for analysis of data in business research. They ranked these applications somewhere between four and six.

Many respondents left some of the listed applications blank, which was interpreted to mean that they did not use those applications in teaching business communication courses. Judging by no response, graphics, diction, and stylistic analysis were the least used applications. However, those who used these applications in business communication teaching ranked them fairly high. For example, of the 22 who ranked "graphics" at all, six ranked it second in effectiveness. From the statistics (see Appendix C), graphics has not been popular for business communication; nevertheless, those who have applied graphics to supplement business communication subject matter appear to favor such an application.

When noting the sources of the business communication software used for their CAI programs, 31 (56.4%) of the respondents purchased software from commercial vendors, 13 (23.6%) produced the software within their school, and nine (16.4%) acquired their software from another college or university. In the "other" category, respondents specified that they got and developed their software from Bell Labs, and three said that they modified the format of commercial software to meet curriculum content. Table V on page 53 shows the breakdown of the sources of business communication software used for CAI programs.

The most popular commercially produced software packages were: WordStar, the Writer°s Work Bench Series, SpellStar, Proof Reader, Punctuation and Style, Grammatic, and Lotus 1-2-3. Other software included Apple Writer, Word Plus, Right Writer, Visi Word, Shell Games, Dialogue, and Mac Write. WordStar received the highest ranking.

TABLE V

RANK ORDER BY IMPORTANCE OF THE SOURCES OF CAI SOFTWARE FOR BUSINESS COMMUNICATION COURSES IN AACSB ACCREDITED SCHOOLS

Item	Rank	Percentage
Purchased from commercial vendors	1	56.4
Produced within the school	2	23.6
Acquired from another college or university	3	16.4

Analysis of Perceived Potential and Problems of CAI in Business Communication Courses

Questions 29 and 30 were open-ended and were designed to be an extension of Questions 24 and 25. (See Appendix A.) However, when the respondents were asked to list the application areas where CAI can be most effectively used in business communication courses, the majority repeated the items in the same order as those listed in Question 25. Table VI on page 54 summarizes the most important applications not previously mentioned in Question 25, along with the frequency of their listings.

One respondent pointed out that "If we spend most our CAI time in remedial type work (i.e., grammar, punctuation, spelling), we as business education teachers have wasted a tremendous amount of valuable time that could be better spent in the many critical curriculum areas of business

TABLE VI

POSSIBLE APPLICATION AREAS FOR CAI IN BUSINESS COMMUNICATION COURSES AS SUGGESTED BY PARTICIPATING AACSB SCHOOLS

Item Mentioned	Frequency of Mention (N=55)
Text and report writing	19
First-draft copy revision via word processing	15
Creative thinking and logical writing	12
Company communication simulations	8
Generation of spreadsheets and graphics for presentations	7
Consistency of format	5
Efficiency in the learning process	4
Ease of application of principles	4
Data analysis	2
Familiarity with computing technology	2
Proofreading	2
Nonverbal appearance	1
Thought process	1

communication."

Ten responded, "We would like to see word processing equipment available for students' use in preparing out-of-class assignments, as

they now prepare handwritten or typewritten assignments. Present word processing software needs simplification, however. The other use is data analysis for report preparation."

Even though instructors had different opinions about CAI in business communication courses, most still would like to see and anticipate the impact of the new technology on their teaching field.

Teachers generally responded favorably, more often mentioning the potential rather than the problems encountered with CAI in business communication courses. Most respondents also repeated Question 24; which could be interpreted to mean that Question 24 summed up the problems when dealing with CAI implementation.

Much insightful data was generated by the open-ended question number 30: "Please explain your views concerning the potential and problem related to CAI for business communication courses." The following are representative of viewpoints about the problems and potential of CAI:

1. Problems Related to Software

The most frequently mentioned was the problem associated with software. Lack of adequate software specifically for business communication ranked the highest as it was mentioned by 16 respondents. Some respondents also commented that software packages often concentrate on rote correctness, not the writer's style.

"Lack of sophistication in applicable simulations" was mentioned seven times. Three respondents pointed out "lack of available software to demonstrate 'networking' and full office automation concepts." All these problems concentrated on improving quality in software.

II. Problems Related to the Program

"Lack of qualified faculty to prepare CAI," was mentioned 11 times and appeared to be the most alarming problem faced in the program development of CAI. "Lack of adequate hardware" and "lack of funds for development, including acquisition costs and costs of technical support" were mentioned eight and seven times, respectively. These statements accentuated the lack of financial support and funding as mentioned in Question 24. One respondent stated that in a financially-constrained environment, business communication is inadequately recognized as a necessary part of the curriculum. The justification of investment of funds in CAI is certainly a major problem. Lack of funds for in-service training for faculty also becomes a consequent dilemma.

III. Miscellaneous Problems and Remarks

The following remarks are representative of those generated by the respondents concerning the actual and perceived problems in establishing business communication CAI program:

1. Lack of adequate control of software among students
2. What to buy--how much to spend
3. Evaluation of the subjective nature of student writing and result
4. Strategies and analysis discussions not readily adapatable to CAI
5. Overdependence and lack of judgment skills
6. Lack of cost and administrative support
7. Monotenous nature of most drill packages
8. Incorrect conception developed by students who might be so impressed with appearance that they do not pay enough attention

to content because of the ease of correction and arrangement

9. Lab schedules difficult to work out that affect student's access to the computers

10. Motivation and promotion of faculty in CAI area

IV. Remarks Concerning the Potential of CAI

Many respondents generously contributed their valuable imput to this study regarding the potential of CAI in teaching business communication courses. Most computer users were optimistic about the future development of CAI and widely disseminated their beliefs by reinforcing the advantages of CAI that they have experienced. Several of the suggestions included were:

1. Teaching students grammar, punctuation, word usage, etc., that cannot be done in class because of time limitations

2. Making writing more enjoyable because of extra assistance given by programs

3. Saving student time in typing papers because error correcting is easy

4. Using computers to get students actively involved in learning through problem-solving strategies

5. Using CAI to improve students' attitudes toward business communication because CAI can make the writing process less burdensome

6. Saving of grading time

As CAI allows more students to be enrolled and allows the instructor to concentrate on important matters of tone, responsiveness, and content, the merits of using CAI is confirmed and broadened. Those respondents who supported the value of CAI in the area of basic language skills

praised CAI very highly. With their students coming from varied backgrounds, the CAI users would more likely enjoy individualized drill and practice and consider CAI more valuable than others whose students come from similar backgrounds. They described,

> I believe that CAI can provide a real benefit to instructors of business communication in that students who need additional assistance may get it more easily. Each student can choose the areas of weakness and work individually on them.

The student's interest in CAI was found very high. Based on previous research in this area it was not surprising that 12 respondents predicted that CAI is used more for remedial purposes which, they estimated, will become a major part of instruction in the future. Ten respondents held different opinions about CAI in business communication classes and criticized using CAI for remedial purposes. These criticisms included:

1. CAI has become a remedial review wherever it has been implemented.

2. Business communication teachers already spend too much classroom time teaching fundamental writing principles that should be a skill learned before they even take this junior or senior level class.

3. Some of the evaluation programs emphasize a few usage and content areas too much, such as never beginning sentences with an expletive and putting too much value on readability formulas.

4. Many faculty forget that business communication is not an English writing class. Too many critical topics in business communication exist that are not of concern when business communication becomes an English review course.

Respondents who opposed the use of CAI as a remedial device in

teaching the basics advocated that it is time to put the emphasis on business in business communication. It is a course that must cover how one can effectively communicate orally, by writing and nonverbally in a business environment. Computers should assist students in developing the application skills, not only those limited to basic fundamentals.

Correlation Comparison of Various Items in the Likert Scale Questionnaire

Sixteen items analyzed teacher attitudes toward the use of CAI in business communication courses by using a correlation analysis. These 16 items were grouped into four categories in the following way:

1. Teacher's acceptance of and attitude toward the use of CAI in business communication courses
2. Teacher's perception of effectiveness of CAI in business communication courses
3. Teacher's perceived problems with CAI in business communication courses
4. Teacher's perceived impact of CAI on business communication courses

Under each category, five items from the Likert scale questions were selected and analyzed one by one. A linear correlation coefficient (r), mean (M), and standard deviation (SD) are presented in tables VII through X.

Through a correlation analysis, there was a strongly significant correlation at the .01 level between the personal acceptance of CAI as a teaching tool (Item 1) and the support for increased usage of CAI in teaching business communication (Item 4). (See Table VII on pages

60-62.) This finding may interpret that an increase in personal support for CAI will have a strong tendency to increase the future use of CAI in teaching business communication courses.

A significant relationship existed at the .05 level between the idea that faculty members are responsible for introducing CAI (Item 2) and that faculty members' attitudes are important for the implementation of CAI (Item 3). No significant relationship was found among the items 1, 2, 3, and 5.

TABLE VII

TEACHERS' ACCEPTANCE OF AND ATTITUDES TOWARD THE USE OF CAI IN BUSINESS COMMUNICATION COURSES IN IN PARTICIPATING AACSB ACCREDITED SCHOOLS

1) Personal acceptance and support for using CAI as an aid to teach business communication

Item	(M)	(SD)	(r)
2) Faculty members are most often responsible for a school's initial involvement with CAI.	4.36	0.62	0.16
3) Faculty attitudes are important factors in successful implementation of CAI.	4.71	0.46	0.15
4) Using CAI to teach business communication should be increased.	4.00	0.75	0.33**
5) Business communication instructors currently possess open minds in relation to the possibilities of CAI.	3.2	0.89	0.11

TABLE VII (Continued)

2) Faculty members are most often responsible for a school's initial involvement with CAI

Item	(M)	(SD)	(r)
3) Faculty attitudes are important factors in successful implementation of CAI.	4.71	0.46	0.25*
4) Using CAI to teach business communication should be increased.	4.00	0.75	0.08
5) Business communication instructors currently possess open minds in relation to the possibilities of CAI.	3.2	0.89	0.07

3) Faculty attitudes are important factors in successful implementation of CAI

Item	(M)	(SD)	(r)
4) Using CAI to teach business communication should be increased.	4.00	0.75	0.16
5) Business communication instructors currently possess open minds in relation to the possibilities of CAI.	3.2	0.89	0.10

TABLE VII (Continued)

4) Using CAI to teach business communication should be increased

Item	(M)	(SD)	(r)
5) Business communication instructors currently possess open minds in relation to the possibilities of CAI.	3.2	0.89	-0.07

Items in each scale, mean (M) and standard deviation (SD) of item responses, and the correlation (r) between the item and its scale excluding the item.

* Significant at the .05 level
** Significant at the .01 level

When teacher's perception of effectiveness of CAI in business communication courses was measured, the correlation analysis indicated that the perception of CAI as a viable alternative to traditional instruction (Item 1) was significantly related to all items on Table VIII, pages 63-64. A strong relationship existed at the .01 level between the belief in a viable CAI alternative (Item 1) and the agreement that CAI greatly contributes to the teaching of business communication (Item 4). This finding may show that an increase in the belief that CAI is viable to teaching business communication will also increase the degree of agreement with the significant contribution of CAI in business communication courses.

The belief that CAI is a good teaching aid closely correlated, at the .05 level, to the ideas that CAI advantages outweigh its

TABLE VIII

TEACHERS' PERCEPTION OF THE EFFECTIVENESS OF CAI IN BUSINESS COMMUNICATION COURSES IN PARTICIPATING AACSB ACCREDITED SCHOOLS

1) CAI is a viable alternative to traditional instruction in the teaching of business communication

Item	(M)	(SD)	(r)
2) CAI advantages far outnumber disadvantages as an effective instructional aid.	3.64	0.89	0.37*
3) CAI for business communication is a student-oriented teaching aid.	3.89	0.83	0.44*
4) CAI provides a significant contribution to teaching business communication.	3.91	0.70	0.49**
5) CAI software currently used provides a thorough knowledge of business communication subject matter.	2.02	0.89	0.26*

2) CAI advantages far outnumber disadvantages as an effective instructional aid

Item	(M)	(SD)	(r)
3) CAI for business communication is a student-oriented teaching aid.	3.89	0.83	0.55**
4) CAI provides a significant contribution to teaching business communication.	3.91	0.70	0.63**
5) CAI software currently used provides a thorough knowledge of business communication subject matter.	2.02	0.89	0.10

TABLE VIII (Continued)

3) CAI for business communication is a student-oriented teaching aid

Item	(M)	(SD)	(r)
4) CAI provides a significant contribution to teaching business communication.	3.91	0.70	0.62**
5) CAI software currently used provides a thorough knowledge of business communication subject matter.	2.02	0.89	0.28*

4) CAI provides a significant contribution to teaching business communication

Item	(M)	(SD)	(r)
5) CAI software currently used provides a thorough knowledge of business communication subject matter.	2.02	0.89	0.12

Items in each scale, mean (M) and standard deviation (SD) of item responses, and the correlation (r) between the item and its scale excluding the item.

* Significant at the .05 level
** Significant at the .01 level

disadvantages (Item 2), that CAI is student-oriented (Item 3), and that current software contains a thorough knowledge of the subject (Item 5).

However, in a breakdown analysis of this category, no significance was found between Item 2 and Item 5; which appears to mean that although

CAI merits are more than its drawbacks, it does not imply that CAI software in use provides substantial subject matter knowledge.

A strong relationship was found at the .01 level among the perceptions that CAI is an effective instructional aid (Item 2), that CAI is student-oriented (Item 3), and that CAI has a significant contribution to the field of business communication (Item 4); which appears to mean that a suitable teaching aid has direct relationship to a student-oriented nature and a significant contribution to the subject matter. No significance was found between the idea that CAI software contains a thorough knowledge of business communication content (Item 5) and that CAI is an effective instructional tool (Item 2), and that CAI contributes to teaching business communication (Item 4), respectively.

Table IX on pages 66-67 shows teachers' perceived problems with CAI in teaching business communication courses. A significant relationship existed at the .05 level between the belief that institutions should be actively engaged in the implementation of CAI in business communication courses (Item 2) and the perception that local college administrators are supporting CAI for business communication (Item 3). This finding shows that an institution gets more involved in implementing CAI programs in business communication whenever local college administrators are more active and supportive of initiating such programs.

A highly significant relationship was found at the .01 level between the statement that CAI software contains substantial knowledge of the subject (Item 4) and the nature of business communication software which is user friendly (Item 5). This appears to mean that an easy-to-access and high quality software will be more interesting and attractive to users.

TABLE IX

TEACHERS' PERCEIVED PROBLEMS WITH CAI IN BUSINESS COMMUNICATION COURSES IN PARTICIPATING AACSB ACCREDITED SCHOOLS

1) Problems related to software and maintenance are greater than hardware problems when establishing CAI to teach business communication

Item	(M)	(SD)	(r)
2) Institutions should be actively engaged in the implementation of CAI in business communication.	4.07	0.83	-0.01
3) Local administrators at the college level have taken a clear stand in support of CAI for business communication.	3.04	1.12	0.08
4) CAI software currently used provides a thorough knowledge of business communication subject matter.	2.02	0.89	-0.06
5) CAI software for business communication is user friendly.	2.87	1.04	-0.11

2) Institutions should be actively engaged in the implementation of CAI in business communication

Item	(M)	(SD)	(r)
3) Local administrators at the college level have taken a clear stand in support of CAI for business communication.	3.04	1.12	0.29*
4) CAI software currently used provides a thorough knowledge of business communication subject matter.	2.02	0.89	0.17
5) CAI software for business communication is user friendly.	2.87	1.04	0.29*

TABLE IX (Continued)

3) Local administrators at the college level have taken a clear stand in support of CAI for business communication

Item	(M)	(SD)	(r)
4) CAI software currently used provides a thorough knowledge of business communication subject matter.	2.02	0.89	-0.00
5) CAI software for business communication is user friendly.	2.87	1.04	0.13

4) CAI software currently used provides a thorough knowledge of business communication subject matter

Item	(M)	(SD)	(r)
5) CAI software for business communication is user friendly.	2.87	1.04	0.56**

Items in each scale, mean (M) and standard deviation (SD) of item responses, and the correlation (r) between the item and its scale excluding the item.

* Significant at the .05 level
** Significant at the .01 level

No significance was found between the problems related to CAI software and hardware maintenance and the involvement of institution and local administration in implementing a CAI program for business communication courses.

A table showing teachers' perceived impact of CAI on business communication is presented in Table X on pages 68-70. A significant correlation at the .05 level was found among the belief that CAI does not reduce instructor contact hours with students (Item 1) and the perception that students are interested in utilizing CAI in their business communiction classes (Item 2), and that CAI for the future use should be increased (Item 5).

TABLE X

TEACHERS' PERCEIVED IMPACT OF CAI ON BUSINESS COMMUNICATION COURSES IN PARTICIPATING AACSB ACCREDITED SCHOOLS

Item	(M)	(SD)	(r)
1) Utilizing CAI reduces the instructor's contact hours with students***			
2) Students are interested in utilizing CAI in business communication classes.	3.80	0.85	0.27*
3) CAI is a viable alternative to traditional instruction in the teaching of business communication.	3.18	1.28	-0.12
4) CAI provides a significant contribution to teaching business communication.	3.91	0.70	0.07
5) Using CAI to teach business communication should be increased.	4.00	0.74	0.28*

*** Item responses were reversed in scoring (1) strongly agree, (2) agree, (3) no opinion, (4) disagree, and (5) strongly disagree.

TABLE X (Continued)

2) Students are interested in utilizing CAI in business communication classes

Item	(M)	(SD)	(r)
3) CAI is a viable alternative to traditional instruction in the teaching of business communication.	3.18	1.28	0.21
4) CAI provides a significant contribution to teaching business communication.	3.91	0.70	0.34**
5) Using CAI to teach business communication should be increased.	4.00	0.74	0.11

3) CAI is a viable alternative to traditional instruction in the teaching of business communication

Item	(M)	(SD)	(r)
4) CAI provides a significant contribution to teaching business communication.	3.91	0.70	0.49**
5) Using CAI to teach business communication should be increased.	4.00	0.74	0.33*

TABLE X (Continued)

4) CAI provides a significant contribution to teaching business communication

Item	(M)	(SD)	(r)
5) Using CAI to teach business communication should be increased.	4.00	0.74	0.53**

Items in each scale, mean (M) and standard deviation (SD) of item responses, and the correlation (r) between the item and its scale excluding the item.

* Significant at the .05 level
** Significant at the .01 level

A positively significant relationship existed at the .01 level between students' interests in using CAI in business communication classes (Item 2) and the contribution CAI made for business communication teaching (Item 4). That CAI is viable was highly related, at the .01 level, to the perceptions that the contribution of CAI (Item 4) and the use of CAI should be extended (Item 5); and the last two perceptions were also highly significant at the .01 level.

No significant relationship was found between Items 1 and 3, Items 1 and 4, Items 2 and 3, and Items 2 and 5. These findings may indicate that an increase in teacher-student interaction will not increase the future use of CAI and will not increase the degree of agreement with the perception that CAI is a viable alternative and that CAI has a contribution to teaching business communication.

Overall these results as analyzed demonstrate that the items used in

this questionnaire are consistent with each other. The significant correlation between those items compared appears meaningful to the future development to CAI programs.

Summary

Following extensive study and analysis, some basic and seemingly important findings relative to the study, but not addressed in a single question, included the following:

1. Business communication teachers are interested in using CAI as a teaching aid but appear to lack the basic knowledge and experience to develop and design CAI software.

2. CAI application and progress appear to be hampered by faculty depending on administrative action and administrators waiting for recommendations and actions from interested faculty members.

3. CAI, as it applies to business communication in AACSB schools, currently has limited direction in relation to process and implementation.

4. The majority of the students (70%) at the participating AACSB accredited schools spend less than three hours with computers for business communication courses outside class per week.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Business communication courses appear to be an integral part of the curricula in colleges of business, particularly in general and elective business education. Previous studies have shown that improved instruction in business communication teaching at the collegiate level is needed. As technology advances, computers will gain popularity in business, industry, and education. Being a part of the computer technology, computer-assisted instruction (CAI) has been utilized as a teaching tool in business communication courses.

Purpose and Design of the Study

The purpose of this study was to generate information about the attitudes of business communication teachers toward computers as well as determine the current status and use of computer-assisted instruction in business communication courses in selected AACSB schools.

Data was received from respondents to a questionnaire mailed to the deans of colleges of business accredited by the AACSB. The deans referred the questionnaire to appropriate business communication instructors. The research objectives of this study were to assess:

1. AACSB business communication teacher's degree of acceptance and preference for using computers to teach business communication
2. AACSB business communication teacher perception of the

effectiveness of computers in teaching business communication courses

3. AACSB business communication teacher problems with using computers in business communication courses

4. AACSB business communication teacher judgment of the impact of computers on business communication courses

5. AACSB business communication teacher perception of the future development and use of computers in business communication courses

6. CAI business communication software being used and developed by AACSB business communication teachers

The Questionnaire

In keeping with the purposes of this study, a five-page printed questionnaire was developed from the literature and questionnaire review. A panel of professional business communication teachers was utilized as a panel of experts. Following their review and analysis, the questionnaire was modified to reflect the experts' opinions. The questionnaire was then mailed to 76 institutions identified by an AACSB national study as currently using computers to teach business communication courses. Sixty-two schools returned the questionnaire for a 81.6 percent return rate. Seven were not usable for various reasons which left 55 valid and usable responses.

Analysis of the Data

The responses to the questionnaire were analyzed with the aid of the Statistical Analysis System package at Oklahoma State University. Predetermined objectives were analyzed by calculating frequency counts

and percentages and by comparing selected items on the questionnaire with each other by a linear correlation coefficient.

Results of the Study

The results of the study are summarized for the four parts of the questionnaire and for the correlation comparison on the Likert scale items.

Part I of the questionnaire was designed to gather general information about the business communication instructors as well as the business communication courses at each institution. Part II was designed to obtain information about teacher attitudes toward computer-assisted instruction in business communication courses. Part III was designed to determine (1) the rank of problems, (2) the type of business communication applications, and (3) the major sources of software currently in use. Part IV was designed to generate comments concerning the potential and the problems related to using computers in business communication courses.

A linear correlation coefficient was used to analyze the significance of Likert scale questions in the final part.

Analysis of General Information

The Present Rank of the Respondents. Nineteen (34.5%) respondents were professors, 16 (29.1%), associate professors, eight (14.5%), assistant professors, three (5.5%), instructors, and six (10.9%), lecturers. Others included a program director, an adjunct professor, and a temporary associate. Total number of usable responses was 55.

The Student Enrollment at the Respondent's Institution. The school size of the majority of respondents (72.7%) fell below 20,000. Seventeen (30.9%) maintained a size between 10,000 and 15,000; ten (18.2%) had less than 5,000. Only three (5.5%) had enrollment greater than 35,000.

Teaching Experience of the Respondents. The majority (36.3%) had taught business communication classes for six to ten years. Sixteen (29.1%) had less than five years of experience and nine (16.4%) had taught 11 to 15 years. Four respondents (7.3%) had worked in this field over 20 years.

The Student Enrollment in the Respondent's Class. The average class size was between 20 to 40; 28 (50.9%) reported their class size was between 21 and 30 and 17 (30.9%), between 31 and 40. Only one indicated a class size over 60.

The Average Contact Hours the Students Spend with CAI. Thirty-eight (69.1%) respondents reported their students spent less than three hours with computers outside class per week, 14 (25.5%), between four to seven hours. Only three reported their students interacted more than eight hours with computers each week.

Analysis of Business Communication Teachers' Perceptions of and Attitudes toward CAI

Personal Acceptance and Support. Twenty-two (40.0%) of the respondents indicated strong agreement for acceptance and support of CAI as an instructional aid for teaching business communication classes. Nineteen (34.6%) agreed and 13 (23.6%) reported no opinion. No strong

disagreement was found.

Faculty Role in Implementaion of CAI. An overwhelming number of respondents, 53 (96.4%), agreed that faculty members are most responsible for initial involvement with CAI, with 23 (41.8%) strongly agreeing and 30 (54.6%) agreeing.

Faculty Attitudes in a Successful Implementation of CAI. All 55 respondents agreed that faculty attitudes are important factors in successful implementation of CAI.

CAI as A Viable Alternative. Twenty-seven of the respondents (49.1%) agreed that CAI is a viable alternative to traditional instruction for teaching business communication. Ten (18.2%) indicated no opinion and 18 (32.7%) listed an unfavorable viewpoint toward CAI.

CAI as An Effective Instructional Aid. Eight (14.6%) of the respondents strongly agreed that the advantages of CAI far outnumber its disadvantages as an effective instructional aid. Twenty-five (45.5%) agreed with this statement, five (9%) disagreed, and 17 (30.9%) showed no opinion.

CAI as A Student-Oriented Aid. The majority of the respondents, 44 (80%), agreed that CAI for business communication is a student-oriented teaching aid. Seven (12.7%) did not state an opinion and three (5.5%) disagreed. Only one (1.8%) strongly disagreed.

CAI Reducing Teacher-Student Contact Hours. No one strongly agreed that utilizing CAI reduces the instructor's contact hours with students. Only nine (16.4%) agreed with this statement. Twenty-two (40%) disagreed

and 15 (27.2%) strongly disagreed.

Student's Interest in Using CAI. Less than three quarters, 39 (70.9%), of the respondents agreed that their students are interested in utilizing CAI in business communication classes, with ten (18.2%) strongly agreeing and 29 (52.7%) agreeing. Eleven (20%) indicated no opinion, five (9.1%) disagreed, and no one strongly disagreed.

Software and Maintenance of CAI. One-third, 18 (32.7%), strongly agreed and two-fifths, 22 (40%), agreed that problems related to software and maintenance are greater than hardware problems when establishing CAI for teaching business communication. Eight (14.6%) did not indicate an opinion. Five (9.1%) disagreed and two (3.6%) strongly disagreed.

Active Involvement on the Part of Institutions. Over four-fifths, 45 (81.8%), of the respondents felt institutions should be actively engaged in the implementation of CAI in business communication. Eight (14.6%) did not state an opinion and two (3.6%) indicated disagreement.

The Support of Local College for CAI. Twenty respondents (36.3%) did not indicate agreement or disagreement with the statement about local administrators taking a clear stand in support of CAI for business communication. Sixteen respondents (29.2%) indicated agreement and 19 disagreed.

CAI as A Significant Contribution. Eight (14.6%) strongly agreed and 36 (65.4%) agreed that CAI provides a significant contribution to teaching business communication. Ten (18.2%) did not state a response. No one disagreed; only one strongly disagreed.

The Increased Use of CAI. Four-fifths (80%) of the respondents agreed that using CAI to teach business communication should be increased. Two (3.6%) disagreed about increased use of CAI in the future. No one strongly disagreed. Nine (16.4%) did not state an opinion.

The Open-Minded Business Communication Instructors. Five (9.1%) strongly agreed and 13 (23.6%) agreed that business communication instructors currently possess open minds in relation to the possibilities of CAI. Although no one strongly disagreed, 12 (21.8%) disagreed that business communication instructors are open-minded. Approximately half of the respondents, 25 (45.5%), did not respond.

CAI Software Providing Thorough Knowledge. No one strongly agreed and only three (5.5%) agreed that CAI software currently used provides a thorough knowledge of business communication subject matter. Thirty-nine (70.9%) disagreed and 13 (23.6%) did not indicate an opinion.

CAI Software as User Friendly. Less than one-third, 17 (30.9%), agreed that CAI software for business communication is user friendly. On the other hand, more than one-third, 21 (38.2%), disagreed with this viewpoint. Seventeen (30.9%) did not state an opinion.

Analysis of Priority Order of CAI Problems and Software Applications

Rank of Problems in Implementation of CAI. Respondents were requested to rank, in order of importance, the problems they encountered in establishing CAI for business communication at their institutions.

The ranks provided were in the order:

1. Lack of financial support and funding
2. Lack of CAI software
3. Lack of knowledge of CAI by business communication instructors
4. Lack of time for development of CAI software
5. Lack of faculty support
6. Lack of interest in CAI by business communication instructors
7. Lack of administrative support

Lack of financial support is the major contributing factor to the problems listed. Other problems mentioned included "lack of time for planning a laboratory" and "lack of time for developing software."

Rank of Business Communication Applications. Over one-third (36.4%) ranked spelling as the most effective CAI application used in business communication classes. Graphics, diction, and stylistic analysis were the least used applications. The current business communication applications were ranked as follows:

1. Spelling
2. Word usage
3. Grammar
4. Sentence arrangement
5. Punctuation
6. Reinforcement of previous learning
7. Stylistic analysis
8. Diction
9. Graphics

Rank of the Sources for CAI Software. Over half of the respondents

(56.4%) purchased their software for business communication courses from commercial vendors, 13 (23.6%) produced software within their schools, and nine (16.4%) acquired their software from another college or university. Some other sources for software used included modifications of the software obtained from commercial vendors or Bell Laboratory.

Rank of Popular Software Packages. WordStar received the highest ranking for use in teaching business communication courses. The other software, in order of ranking, included the Writer's Work Bench Series, SpellStar, Proof Reader, Punctuation and Style, Grammatic, Lotus 1-2-3, Apple Writer, Word Plus, Right Writer, Visi Word, Shell Games, Dialogue, and Mac Write.

Analysis of Perceived Potential and Problems of CAI in Business Communication Courses

Possible Applications for CAI in Business Communication. The following is a list, in rank order, of the possible CAI application areas in business communication courses as considered by most respondents:

1. Text and report writing
2. First-draft copy revision via word processing
3. Creative thinking and logical writing
4. Company communication simulations
5. Generation of spreadsheets and graphics for presentations
6. Consistency of format
7. Efficiency in the learning process
8. Ease of application of principles
9. Data analysis

10. Familiarity with computing technology
11. Proofreading
12. Nonverbal appearance
13. Thought process

Problems Related to Software. Lack of adequate software specifically developed for business communication ranked first when dealing with software. Available software often did not focus on business communication content.

Problems Related to the Program. Implementation of a CAI program demands not only hardware and software but also qualified faculty for further development of CAI. "Lack of qualified faculty to prepare CAI" was the most frequently mentioned problem. Lack of funds for development, including acquisition costs for technical support and faculty's in-service training, ranked second.

Miscellaneous Problems and Remarks. The following remarks were gathered from the comments the respondents made about problems they experienced:

1. Lack of adequate control of software among students
2. Evaluation of the writing results
3. Monotenous nature of most drill packages
4. Lab schedules difficult to arrange that would affect student's access to the computers

Remarks Concerning the Potential of CAI. The majority of the respondents reported optimism toward the potential of CAI in teaching

business communication courses. The respondents reported the advantages of using CAI, including the following:

1. Teaching students fundamentals that cannot be done in class because of limited time

2. Making writing more enjoyable for students because of extra assistance provided by CAI programs

3. Saving student time in typing papers because of ease of revision

4. Using computers to get students actively involved in learning through problem-solving approaches

5. Using CAI to improve students' attitudes toward business communication because CAI may make the writing process less burdensome for students

Some respondents were in favor of using CAI for enhancing students' basic English skills while some others were not. Criticism included its move toward becoming a remedial review program. Many faculty members felt business communication should not be an English writing class. Students of business communication courses should learn the application skills that can be used in a real business world was strongly stressed.

Correlation Comparison of Various Items in the Likert Scale Questionnaire

Teacher's Acceptance of and Attitude toward CAI. A linear correlation analysis was used to test significance between the items in the Likert scale questionnaire. A strong significant relationship was found at the .01 level between the acceptance of CAI as a teaching aid and the support for increased usage of CAI in teaching business

communication courses. A significant relationship also existed at the .05 level between the ideas that faculty members are responsible for initial involvement with CAI and that faculty members' attitudes are important for the implementation of CAI.

Teacher's Perception of CAI as An Effective Aid. A strong significant relationship was found at the .01 level between the belief in a viable CAI and the contribution CAI made in business communication courses. A significant relationship also existed at the .05 level between the perception that CAI is an effective teaching tool and the idea that CAI advantages exceed its disadvantages, and the idea that CAI is student-oriented, respectively.

Teacher's Perceived Problems with CAI. A significant relationship was found at the .05 level between the belief in active involvement of institutions for implementing CAI programs and the perception that local college administrators are supporting CAI for business communication.

Teacher's Perceived Impact of CAI. A positively significant relationship was found at the .01 level between student interest in utilizing CAI for business communication courses and the contribution CAI provides. The belief that CAI is viable and effective was highly related, at the .01 level, to the support for the increased utilization of CAI in the future. A significant relationship was found at the .05 level between the perceptions that using CAI will increase instructor contact hours with students and that students are interested in the utilization of CAI in their business communication classes.

Conclusions

The following conclusions and recommendations are based on the findings of the survey investigating the use, selection, and suitability of CAI in business communication courses and the review of the related literature.

1. Although a good deal of interest in using CAI was found in business communication teachers, computer-assisted instruction used as an aid for teaching business communication courses remains a relatively small fraction of the total instructional system.

2. Faculty members are most responsible for initial involvement with CAI and their attitudes toward and support for the use of CAI are important for the implementation of a CAI program.

3. Business communication instructors strongly believe that institutions should be actively involved in introducing CAI programs and expect that local administrators should actively support the development of CAI programs.

4. Most CAI users believe that the utilization of CAI can increase teacher-student interaction and student interest in learning, but they also stress that computers cannot replace a classroom teacher.

5. Those business communication instructors who have used CAI as a teaching tool tend to support the increased use of CAI.

6. Overall, CAI users favor utilizing CAI to teach business communication courses; however, they feel their fellow instructors do not possess an open-minded attitude toward the adoption of CAI. A consistency between the contribution of CAI and the increased use of CAI to teaching business communication (both with an 80 percent agreement)

was found, but only 32.7 percent of the respondents agreed that business communication teachers are open-minded which is an interesting observation.

7. The problems business communication instructors encountered when developing a CAI program include lack of financial support and funding, lack of adequate CAI software, and lack of technical skills to prepare CAI. The contributing problem is financial constraint.

8. Most CAI users purchase their software from commercial vendors and are generally dissatisfied with the quality the vendors provide. CAI users tend to like quality software that is user friendly, carefully designed, and contains thorough knowledge of the subject.

9. The majority of CAI users believe in the great potential of CAI, especially in the mechanical aspect of business communication writing. The value of CAI in teaching spelling, word usage, and grammar is confirmed.

10. CAI is effective in preparing students with the basics essential for good writing and the process of learning. Improving students' interests in and attitudes toward business communication courses is an important aspect of CAI.

Recommendations

1. More effort needs to be devoted to developing an adequate CAI program for business communication courses at the collegiate level. The software should be developed and improved to cover remedial and realistic application skills that would help alleviate the deficiency of business communication found on the part of college students.

2. More time needs to be spent in carefully designing a CAI program and in developing well-planned evaluation procedures for both program and software.

3. A study of CAI programs for business communication courses should be conducted to determine the needed support from institutions, local colleges, and faculty members for the implementation of a CAI program in order to determine the perceived effectiveness of business communication application areas, and to determine the factors that will enhance and improve the quality of CAI programs and software.

4. The potential of CAI should be extended to text and report writing, creative and logical thinking, and company communication simulations.

5. CAI should be developed and expanded to simulate the real business world. Application skills should be stressed in business communication courses.

6. Business communication instructors should stay open-minded, informed, and adaptive to the development of the new CAI technology, especially in relation to the impact that computers can have on teaching business communication courses.

7. Computer manufacturers involved in software production should be aware of the development of and need for the business communication subject and should be responsible for quality software.

8. A follow-up study should be made to determine the ideal CAI programs for business communication courses perceived by the total instructional institutions. Considerations might be given to the following items in conducting such a survey:

a. The optimum funds needed for successful implementation of a CAI program

b. The optimum funds needed for development of CAI software

c. The optimum funds needed for faculty's in-service technical training

d. The adequate procedures for implementing a CAI program

e. The degree of acceptance and preference of using CAI in business communication courses by administrators, instructors, and students

9. This study should be conducted at planned and periodic intervals to continually assess the status, use, and suitability of CAI in business communication courses at the collegiate level.

BIBLIOGRAPHY

Adkins, Bertee. "Analysis of Business Communications Skills and Knowledges as Percieved by Selected Businesspersons, Teachers, and Students in Kentucky." Delta Pi Epsilon Journal, Vol. 24, No. 2 (April, 1982), pp. 70-81.

Allred, Hilda F. and Clark, Joseph F. "Written communication Problems and Priorities." The Journal of Business Communication, Vol. 15, No. 2 (Winter, 1978), pp. 31-35.

Atkinson, Richard, Ed. Computer-Assisted Instruction: A Book of Reading. New York, NY: Academic Press, 1969.

Blaschke, Charles L. "Microcomputer Software Development for Schools: What, Who, How?" Educational Technology, Vol. 19, No. 10 (October, 1979), pp. 26-28.

Boes, Orville F. and Bernardi, Ray. "Using the Computer to Teach Specific Communication Skills." Business Education Forum, Vol. 36, No. 8 (May, 1982), pp. 14-15.

Bohlman, Herbert M. and Wunsch, Alan P. "Common Sense Writing: A Developing Trend." Journal of Business Education, Vol. 57, No. 3 (December, 1981), pp. 95-97.

Bonner, William H. "The Teaching of Business English and Communication." Contributions of Research to Business Education. Washington, D. C.: National Business Education Association, NBEA Yearbook, No. 9, 1971, pp. 105-113.

Bourque, Joseph H. "Understanding and Evaluating: The Humanist as Computer Specialist." College English, Vol. 45, No. 1 (January, 1983), pp. 67-73.

Boyd, William P. and Inman, Thomas H. "A Historical Development of Business Communications." Business Education Yesterday, Today, and Tomorrow. Reston: National Business Education Association, NBEA Yearbook, No. 14, 1976, pp. 123-141.

Braun, Carl. "Teacher Expectations: Sociopsychological Dynamics." Review of Educational Research, Vol. 46, No. 2 (Spring, 1976), pp. 185-213.

Briand, Paul L. Jr. "Technology in the Teaching of Composition." Paper presented at the Annual Meeting of the Conference on College Composition and Communication (29th, Denver, Colorado, March 30-April 1, 1978).

Brownell, Judi. "Improving the Communication Skills of Business Students: Options in Program Development." Journal of Business Education, Vol. 58, No. 3 (December, 1982), pp. 109-112.

Cantrell, Robert P., Stenner, A. Jackson, and Katzenmeyer, William G. "Teacher Knowledge, Attitudes and Classroom Teaching Correlates of Student Achievement." Journal of Educational Psychology, Vol. 69, No. 2 (April, 1977), pp. 172-179.

Cross, Aleene A. Ed. Vocational Instruction. Washington, D. C.: The American Vocational Association, Inc., 1980.

Cross, K. Patricia. Accent on Learning. San Francisco: Jossey-Bass Publishers, 1976.

Dorrell, Jean. and Johnson, Betty. "A Comparative Analysis of Topics Covered in Twenty College-Level Communication Textbooks." The ABCA Bulletin, Vol. 45, No. 3 (September, 1982), pp. 11-16.

Fauley, Franz E. "The Future of Computer-Assisted Instruction." Training and Development Journal, Vol. 32, No. 7 (July, 1978), pp. 65-66.

Feinberg, Susan. "Evaluation of Business Communication Techniques." The Journal of Business Communication, Vol. 17, No. 4 (Summer, 1980), pp. 47-50.

Folk, Michael. Personal Interview. Stillwater, Oklahoma, January 25, 1985.

Glassman, Myron, and Farley, E. Ann. "AACSB Accredited Schools' Approach to Business Communication Courses." The Journal of Business Communication, Vol. 16, No. 3 (Spring, 1979), pp. 41-48.

Goldberg, Maxwell H. Cybernation, Systems, and the Teaching of English: The Dilemma of Control. Urbana, IL: National Council of Teachers of English, 1972.

Golen, Steven. "Using a Data Processing Tool in Business Report Writing Class." Journal of Business Education, Vol. 57, No. 7 (April, 1982), pp. 266-267.

Goodlad, John I. "Education and Technology." In Sidney G. Tickton (Ed.), To Improve Learning: An Evaluation of Instructional Technology. Vol. 2, New York: R. R. Bowker Co., 1971, pp. 89-96.

Hart, Sara Ann. "Perceptual Aspects for Professional Preparation of Collegiate Business Communication Teachers." Delta Pi Epsilon Journal, Vol. 17, No. 4 (August, 1975), pp. 48-51.

Hazen, Margaret. "Computer-Assisted Instruction with PILOT on the Apple Computer." Educational Technology, Vol. 22, No. 11 (November, 1982), pp. 20-22.

Herbert, Mellanie. "Microcomputer-Assisted Instruction: Equal May Be Better." Business Education Forum, Vol. 36, No. 5 (February, 1982), pp. 31-33.

Herbert, Mellanie. "You Can Do It! Modify Software for Your Students' Needs." Journal of Business Education, Vol. 58, No. 5 (February, 1983), pp. 178-180.

Hocking, Joan. "The Impact of Microcomputers on Composition Students." Paper presented at the Annual Meeting of the Conference on College Composition and Communication (34th, Detroit, MI, March 17-19, 1983).

Holms, Glyn. "Computer-Assisted Instruction: A Discussion of Some of the Issues for Would-Be Implementors." Educational Technology, Vol. 22, No 9 (September, 1982), pp. 7-13.

Horodowich, Peggy Maki. "Developing Stylistic Awareness on the Computer: A Tagmemic Approach." Paper presented at the Annual Meeting of the Midwest Modern Language Association (21st, Indianapolis, IN, November 8-10, 1979).

Hulbert, Jack E. "Vocabulary--A Key to Effective Business Communication." Journal of Business Education, Vol. 56, No. 8 (May, 1981), pp. 324-327.

Ingle, Earl B. and Munsterman, Richard E. "CMI, CAI: What Are They and What°s in It for Us?" Kappa Delta Pi Record, Vol. 13, No. 2 (December, 1976), pp. 46-48.

Inman, Thomas H. and Krajewski, Lorraine. "A Futuristic View of Business Communication." The ABCA Bulletin, Vol. 41, No. 4 (December, 1978), pp. 15-17.

Jordan, Pauline and others. Community College English Lesson Index. Urbana, IL: Illinois University Computer-Based Education Lab, 1976.

Komoski, P. Kenneth. "Educational Computing: The Burden of Insuring Quality." Phi Delta Kappan, Vol. 66, No. 4 (December, 1984), pp. 244-248.

Lemaster, A. James. "Developing CAI Programs for Business Writing." Business Education Forum, Vol. 39, No. 6 (March, 1985), pp. 20-24.

Margolin, Joseph B. and Misch, Marion R. "An Introduction to Computer Assisted Instruction." Computer in the Classroom: An Interdisciplinary View of Trends and Alternative. New York: Spartan Books, 1970, pp. 63-70.

McDonald, Phyllis. "From a Teacher's Point of View." Computer in the Classroom: An Interdisciplinary View of Trends and Alternatives. New York: Spartan Books, 1970, pp. 113-124.

Michael, Gary and Sliger, Mary. Language Arts Routing System (LARS) Instructor's Manual: Community College English Project. Urbana, IL: Illinois University Computer-Based Education Lab, 1976.

Morris, Kenneth M. "The Plain English Movement: A Status Report." Proceedings Cultural Crossroads in the 80's, 1982 ABCA International Convention, 1982, pp. 3-13.

Mrachek, Len. "Forward to the Basics." VocEd, Vol. 55, No. 2 (February, 1980), pp. 22-25.

Nemesh, Mary and Nemesh, Anna. "Technological Utilization in Business Education." Alternative Learning Styles in Business Education. Reston, VA: National Business Education Association, NBEA Yearbook, No. 17, 1979, pp. 157-179.

Nicholl, James R. "How Microcomputers May Redefine English Teaching." Paper presented at the Annual Meeting of the Southeastern Conference on English in the Two Year College (17th, Winston-Salem, NC, February 25-27, 1982).

Pierson, Frank C., et al. The Education of American Businessmen. New York: McGraw-Hill Book Company, Inc., 1959.

Potts, Ann S. "A Study of Factors Affecting the Success of Computer-Assisted Instruction in Selected Colleges and Universities." Computer-Based Instruction: A New Decade. 1980 Conference Proceedings, March 31-April 3, 1980, Washington, D. C.: Association for the Development of Computer-Based Instructional Systems, 1980.

Quible, Zane K., Johnson, Margaret H., and Mott, Dennis L. Introduction to Business Communication. Englewood Cliffs: Prentice-Hall, Inc., 1981.

Ramlet, James S. "SIS: A Sorting Instruction Simulator." (Unpub. M.S. thesis, Oklahoma State University, 1984).

Rossi, Michael J. "Computer-Assisted Instruction in Business Communication." Proceeding Cultural Crossroads in the 80's. 1982 ABCA International Convention, Sam J. Bruno, Ed. Clear Lake City, TX: ABCA Southwest Region, (January, 1983), pp. 23-29.

Selfe, Cynthia L. "Wordsworth II: New Wave CAI for College Composition Teachers." Paper presented at the Annual Meeting of the National Council of Teachers of English (72nd, Washington, D. C., November 19-24, 1982).

Skaggs, Peggy. "Computerized Communications: Problems and Promise." Technical Writing Teacher, Vol. 9, No. 3 (Spring, 1982), pp. 163-167.

Smeltzer, Larry and Golen, Steven. "Transmission and Retrieval of Information: Statements and Hypotheses for Research." Journal of Business Communication, Vol. 21, No. 1 (Winter, 1984), pp. 81-91.

Stine, Donna. and Skarzenski, Donald. "Priorities for the Business Communication Classroom: A Survey of Business and Academe." The Journal of Business Communication, Vol. 16, No. 3 (Spring, 1979), pp. 15-30.

Stoddard, Ted D. "Business Communication as a Competency-based General Education Course." Journal of Business Communication, Vol. 17, No. 5 (Fall, 1980), pp. 51-60.

Sullivan, Jeremiah J. "The Importance of a Philosophical 'Mix' in Teaching Business Communication." Journal of Business Communication, Vol. 15, No. 4 (Summer, 1978), pp. 29-37.

Tesch, Robert C. Sr. "Experimental Evaluation of the Effectiveness of a Computer-Assisted Instruction Program." The Journal of Data Education, Vol. 23, No. 1 (Fall, 1982), pp. 21-22.

The Policies Commission for Business and Economic Education. "This We Believe about the Teaching of Business Communication." Business Education Forum, Vol. 39, No. 1 (October, 1984), p. 11.

Warner, Joan E. "Where Has All the Syntax Gone?" The ABCA Bulletin, Vol. 42, No. 1 (March, 1979), pp. 17-22.

Wresch, William. "Computers in English Class: Finally Beyond Grammar and Spelling Drills." College English, Vol. 44, No. 5 (September, 1982), pp. 483-490.

APPENDIXES

APPENDIX A

THE QUESTIONNAIRE

A QUESTIONNAIRE SURVEY OF COMPUTER-ASSISTED INSTRUCTION IN BUSINESS COMMUNICATION COURSES IN AACSB ACCREDITED SCHOOLS

_____ _____

Your Department Your University's Name

Instructions: A recent survey from American Assembly of Collegiate Schools of Business identified your school as one using computer-assisted instruction (CAI) to teach business communication. This questionnaire is designed to further identify the use, selection, and suitability of CAI in business communication. Please check each of the following statements.

1. What is your present rank?

Lecturer	_____	Associate Professor	_____
Instructor	_____	Professor	_____
Assistant Professor	_____	Other (Please specify)	_____
		_____	

2. Approximately how many students are enrolled in your institution?

Below 5,000	_____	20,001 - 25,000	_____
5,001 - 10,000	_____	25,001 - 30,000	_____
10,001 - 15,000	_____	30,001 - 35,000	_____
15,001 - 20,000	_____	Over 35,000	_____

3. How long have you been teaching business communication courses?

Less than 5 years	_____	16 - 20 years	_____
6 - 10 years	_____	More than 20 years	_____
11 - 15 years	_____		

4. How many section(s) of business communication classes are you teaching this term?

1	_____	3	_____
2	_____	4	_____

5. How many students (total) are enrolled in the business communication classes you currently teach this term?

Below 20	_____	41 - 50	_____
21 - 30	_____	51 - 60	_____
31 - 40	_____	Over 60 (Please specify)	_____

6. How many times does your class meet each week?

Below 3	_____	Over 3 (Please specify)	_____
3	_____	(Please specify the minutes of your class session _____.)	

7. Approximately how many hours do your students spend with CAI outside the class each week?

Below 3	_____	12 - 15	_____
4 - 7	_____	16 - 20	_____
8 - 11	_____	Over 20 (Please specify)	_____

Instructions: Please indicate your agreement or disagreement with each of the following statements by circling the appropriate number represented by the following scales.

1. Strongly Disagree (SD)
2. Disagree (D)
3. No Opinion (NO)
4. Agree (A)
5. Strongly Agree (SA)

		SD	D	NO	A	SA
8.	Personal acceptance and support for using CAI as an aid to teach business communication.	1	2	3	4	5
9.	Faculty members are most often responsible for a school's initial involvement with CAI.	1	2	3	4	5
10.	Faculty attitudes are important factors in successful implementation of CAI.	1	2	3	4	5
11.	CAI is a viable alternative to traditional instruction in the teaching of business communication.	1	2	3	4	5
12.	CAI advantages far outnumber disadvantages as an effective instructional aid.	1	2	3	4	5
13.	CAI for business communication is a student-oriented teaching aid.	1	2	3	4	5
14.	Utilizing CAI reduces the instructor's contact hours with students.	1	2	3	4	5
15.	Students are interested in utilizing CAI in business communication classes.	1	2	3	4	5

		SD	D	NO	A	SA
16.	Problems related to software and maintenance are greater than hardware problems when establishing CAI to teach business communication.	1	2	3	4	5
17.	Institutions should be actively engaged in the implementation of CAI in business communication.	1	2	3	4	5
18.	Local administrators at the college level have taken a clear stand in support of CAI for business communication.	1	2	3	4	5
19.	CAI provides a significant contribution to teaching business communication.	1	2	3	4	5
20.	Using CAI to teach business communication should be increased.	1	2	3	4	5
21.	Business communication instructors currently possess open minds in relation to the possibilities of CAI.	1	2	3	4	5
22.	CAI software currently used provides a thorough knowledge of business communication subject matter.	1	2	3	4	5
23.	CAI software for business communication is user friendly.	1	2	3	4	5

24. Please rank order the problems you encountered in establishing CAI for business communication at your institution with 1 being the most important and 8 the least important.

_____ Lack of financial support and funding
_____ Lack of faculty support
_____ Lack of interest in CAI by business communication instructors
_____ Lack of knowledge of CAI by business communication instructors
_____ Lack of administrative support
_____ Lack of CAI software
_____ Lack of time for development of CAI software
_____ Other. Please specify _____

_____

25. Please rank order the following business communication applications of CAI with 1 being the most effective and 10 the least effective. (If you haven't used CAI in one of the applications, please leave it blank.)

_____ Diction
_____ Grammar
_____ Graphics
_____ Punctuation
_____ Reinforcement of previous learning
_____ Sentence arrangement
_____ Spelling
_____ Stylistic analysis
_____ Word usage
_____ Other. Please specify _____
_____

26. Please rank order the sources for your CAI software with 1 being the most important and 4 the least important.

_____ Acquired from another college or university
_____ Produced within the school
_____ Purchased from commercial vendors
_____ Other. Please specify _____
_____

27. Please list the name or names of the software package used in your business communication courses.

_____

_____

_____

_____

28. For the items above, please rank order the software with 1 being the most used and 4 the least used.

Rank Software Name

_____ _____

_____ _____

_____ _____

_____ _____

29. Please list the application areas where CAI can be most effectively used in business communication courses.

30. Please explain your views concerning the potential and problem related to CAI for business communication.

***** Your assistance will be greatly appreciated. *****
If you need a summary of this questionnaire,
please list your name and address.

Thank you for your valuable input!

APPENDIX B

CORRESPONDENCE TO AACSB REPRESENTATIVES

Oklahoma State University

COLLEGE OF BUSINESS ADMINISTRATION

STILLWATER, OKLAHOMA 74078
(405) 624-5064

February 15, 1985

Dear

Your college was identified through a recent national survey from AACSB as one which currently provides business communication instructors with support for computer-assisted instruction.

A study currently underway at Oklahoma State University is designed for further identification of the use, selection, and suitability of computer-assisted instruction in business communication courses. Your help is critical for successful completion of this study.

Would you please assist in this study by ensuring the completion of the enclosed questionnaire by an appropriate instructor in the business communication area? The questionnaire is designed to take approximately 15 minutes to complete and can be returned in the attached, postage-paid envelope.

Your assistance in this research effort will provide valuable information for computer-assisted instruction in colleges and universities.

We will appreciate receiving your completed questionnaire by February 28, 1985.

Sincerely yours,

Pan Chien-Chun

Dennis L. Mott, Dissertation Adviser
Professor and Department Head
Administrative Services and Business Education

Enclosures:
Questionnaire
Postage-paid envelope

CENTENNIAL DECADE

Oklahoma State University

COLLEGE OF BUSINESS ADMINISTRATION

STILLWATER, OKLAHOMA 74078
(405) 624-5064

March 6, 1985

Dear

Recently we sent you a letter and a questionnaire seeking information about the status of computer-assisted instruction in business communication courses.

If you have already completed and returned the questionnaire, please accept our sincere thanks. If not, we would appreciate your prompt reply since only a small, representative sample was selected to receive the questionnaire. Your input is extremely important!

The enclosed questionnaire should be completed by an instructor who currently teaches business communication courses.

Your assistance and support for this study will be appreciated. Please return the completed questionnaire in the attached postage-paid envelope by March 19, 1985.

Sincerely yours,

Pan Chien-Chun

Dennis L. Mott, Dissertation Adviser
Professor and Department Head
Administrative Services and Business Education

Enclosures:
Questionnaire
Postage-paid envelope

APPENDIX C

RESULTS OF THE QUESTIONNAIRE

TABLE XI

ACADEMIC RANK OF CAI BUSINESS COMMUNICATION RESPONDENTS IN PARTICIPATING AACSB ACCREDITED SCHOOLS

Present Rank	Frequency	Cum. Freq.	Percent	Cum. Percent
Lecturer	6	6	10.9	10.9
Instructor	3	9	5.5	16.4
Assistant Professor	8	17	14.5	30.9
Associate Professor	16	33	29.1	60.0
Professor	19	52	34.5	94.5
Other	3	55	5.5	100.0

TABLE XII

STUDENT ENROLLMENT AT AACSB INSTITUTIONS
PARTICIPATING IN THE CAI IN BUSINESS
COMMUNICATION STUDY

Enrollment	Frequency	Cum. Freq.	Percent	Cum. Percent
Below 5,000	10	10	18.2	18.2
5,001 - 10,000	6	16	10.9	29.1
10,001 - 15,000	17	33	30.9	60.0
15,001 - 20,000	7	40	12.7	72.7
20,001 - 25,000	5	45	9.1	81.8
25,001 - 30,000	2	47	3.6	85.4
30,001 - 35,000	5	52	9.1	94.5
Over 35,000	3	55	5.5	100.0

TABLE XIII

YEARS OF TEACHING EXPERIENCE OF THE RESPONDENTS FOR CAI IN BUSINESS COMMUNICATION IN PARTICIPATING AACSB ACCREDITED SCHOOLS

Teaching Year	Frequency	Cum. Freq.	Percent	Cum. Percent
Below 5 years	16	16	29.1	29.1
6 - 10 years	20	36	36.3	65.4
11 - 15 years	9	45	16.4	81.8
16 - 20 years	6	51	10.9	82.7
Over 20 years	4	55	7.3	100.0

TABLE XIV

AVERAGE CLASS SIZE OF BUSINESS COMMUNICATION COURSES IN PARTICIPATING AACSB ACCREDITED SCHOOLS

Class Size	Frequency	Cum. Freq.	Percent	Cum. Percent
Below 20	7	7	12.7	12.7
21 - 30	28	35	50.9	63.6
31 - 40	17	52	30.9	94.5
41 - 50	2	54	3.7	98.2
51 - 60	0	54	0.0	98.2
Over 60	1	55	1.8	100.0

TABLE XV

AVERAGE NUMBER OF HOURS STUDENTS SPEND EACH WEEK WITH COMPUTERS IN BUSINESS COMMUNICATION COURSES IN PARTICIPATING AACSB ACCREDITED SCHOOLS

Contact Hour	Frequency	Cum. Freq.	Percent	Cum. Percent
Below 3 hours	38	38	69.1	69.1
4 - 7 hours	14	52	25.5	94.6
8 - 11 hours	2	54	3.6	98.2
12 - 15 hours	0	54	0.0	98.2
16 - 20 hours	1	55	1.8	100.0
Over 20 hours	0	55	0.0	100.0

TABLE XVI

SURVEY OF COMPUTERS IN BUSINESS COMMUNICATION
COURSES IN PARTICIPATING AACSB
ACCREDITED SCHOOLS

1. Personal acceptance and support for using CAI as an aid to teach business communication.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	22	22	40.0	40.0
Agree	19	41	34.6	74.6
No Opinion	13	54	23.6	98.2
Disagree	1	55	1.8	100.0
Strongly Disagree	0	55	0.0	100.0

2. Faculty members are most often responsible for a school's initial involvement with CAI.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	23	23	41.8	41.8
Agree	30	53	54.6	96.4
No Opinion	1	54	1.8	98.2
Disagree	1	55	1.8	100.0
Strongly Disagree	0	55	0.0	100.0

TABLE XVI (Continued)

3. Faculty attitudes are important factors in successful implementation of CAI.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	39	39	70.9	70.9
Agree	16	55	29.1	100.0
No Opinion	0	55	0.0	100.0
Disagree	0	55	0.0	100.0
Strongly Disagree	0	55	0.0	100.0

4. CAI is a viable alternative to traditional instruction in the teaching of business communication.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	8	8	14.6	14.6
Agree	19	27	34.5	49.1
No Opinion	10	37	18.2	67.3
Disagree	11	48	20.0	87.3
Strongly Disagree	7	55	12.7	100.0

TABLE XVI (Continued)

5. CAI advantages far outnumber disadvantages as an effective instructional aid.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	8	8	14.6	14.6
Agree	25	33	45.5	60.1
No Opinion	17	50	30.9	91.0
Disagree	4	54	7.2	98.2
Strongly Disagree	1	55	1.8	100.0

6. CAI for business communication is a student-oriented teaching aid.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	10	10	18.2	18.2
Agree	34	44	61.8	80.0
No Opinion	7	51	12.7	92.7
Disagree	3	54	5.5	98.2
Strongly Disagree	1	55	1.8	100.0

TABLE XVI (Continued)

7. Utilizing CAI reduces the instructor's contact hours with students.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	0	0	0.0	0.0
Agree	9	9	16.4	16.4
No Opinion	9	18	16.4	32.8
Disagree	22	40	40.0	72.8
Strongly Disagree	15	55	27.2	100.0

8. Students are interested in utilizing CAI in business communication classes.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	10	10	18.2	18.2
Agree	29	39	52.7	70.9
No Opinion	11	50	20.0	90.9
Disagree	5	55	9.1	100.0
Strongly Disagree	0	55	0.0	100.0

TABLE XVI (Continued)

9. Problems related to software and maintenance are greater than hardware problems when establishing CAI to teach business communication.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	18	18	32.7	32.7
Agree	22	40	40.0	72.7
No Opinion	8	48	14.6	87.3
Disagree	5	53	9.1	96.4
Strongly Disagree	2	55	3.6	100.0

10. Institutions should be actively engaged in the implementation of CAI in business communication.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	17	17	30.9	30.9
Agree	28	45	50.9	81.8
No Opinion	8	53	14.6	96.4
Disagree	1	54	1.8	98.2
Strongly Disagree	1	55	1.8	100.0

TABLE XVI (Continued)

11. Local administrators at the college level have taken a clear stand in support of CAI for business communication.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	8	8	14.6	14.6
Agree	8	16	14.6	29.2
No Opinion	20	36	36.3	65.5
Disagree	16	52	29.1	94.6
Strongly Disagree	3	55	5.4	100.0

12. CAI provides a significant contribution to teaching business communication.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	8	8	14.6	14.6
Agree	36	44	65.4	80.0
No Opinion	10	54	18.2	98.2
Disagree	0	54	0.0	98.2
Strongly Disagree	1	55	1.8	100.0

TABLE XVI (Continued)

13. Using CAI to teach business communication should be increased.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	13	13	23.6	23.6
Agree	31	44	56.4	80.0
No Opinion	9	53	16.4	96.4
Disagree	2	55	3.6	100.0
Strongly Disagree	0	55	0.0	100.0

14. Business communication instructors currently possess open minds in relation to the possibilities of CAI.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	5	5	9.1	9.1
Agree	13	18	23.6	32.7
No Opinion	25	43	45.5	78.2
Disagree	12	55	21.8	100.0
Strongly Disagree	0	55	0.0	100.0

TABLE XVI (Continued)

15. CAI software currently used provides a thorough knowledge of business communication subject matter.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	0	0	0.0	0.0
Agree	3	3	5.5	5.5
No Opinion	13	16	23.6	29.1
Disagree	21	37	38.2	67.3
Strongly Disagree	18	55	32.7	100.0

16. CAI software for business communication is user friendly.

Degree of Agreement	Frequency	Cum. Freq.	Percent	Cum. Percent
Strongly Agree	2	2	3.6	3.6
Agree	15	17	27.3	30.9
No Opinion	17	34	30.9	61.8
Disagree	16	50	29.1	90.9
Strongly Disagree	5	55	9.1	100.0

TABLE XVII

BREAKDOWN OF THE PROBLEMS ENCOUNTERED IN ESTABLISHING CAI FOR BUSINESS COMMUNICATION IN AACSB ACCREDITED SCHOOLS IN RANK ORDER OF IMPORTANCE

1. Lack of financial support and funding

Order of Importance	Frequency	Cum. Freq.	Percent	Cum. Percent
1	23	23	41.8	41.8
2	6	29	10.9	52.7
3	4	33	7.3	60.0
4	3	36	5.4	65.4
5	0	36	0.0	65.4
6	4	40	7.3	72.7
7	2	42	3.6	76.3
8	4	46	7.3	83.6
No Response	9	55	16.4	100.0

TABLE XVII (Continued)

2. Lack of faculty support

Order of Importance	Frequency	Cum. Freq.	Percent	Cum. Percent
1	3	3	5.4	5.4
2	2	5	3.6	9.0
3	4	9	7.3	17.3
4	8	17	14.5	31.8
5	4	21	7.3	39.1
6	11	32	20.0	59.1
7	7	39	12.7	71.8
8	1	40	1.8	73.6
No Response	15	55	27.3	100.0

TABLE XVII (Continued)

3. Lack of interest in CAI by business communication instructors

Order of Importance	Frequency	Cum. Freq.	Percent	Cum. Percent
1	0	0	0.0	0.0
2	3	3	5.4	5.4
3	4	7	7.3	12.7
4	8	15	14.5	27.2
5	10	25	18.2	45.4
6	9	34	16.4	61.8
7	6	40	10.9	72.7
8	1	41	1.8	74.5
No Response	14	55	25.4	100.0

TABLE XVII (Continued)

4. Lack of knowledge of CAI by business communication instructors

Order of Importance	Frequency	Cum. Freq.	Percent	Cum. Percent
1	4	4	7.3	7.3
2	4	8	7.3	14.6
3	15	23	27.3	41.9
4	11	34	20.0	61.9
5	7	41	12.7	74.6
6	2	43	3.6	78.2
7	1	44	1.8	80.0
8	0	44	0.0	80.0
No Response	11	55	20.0	100.0

TABLE XVII (Continued)

5. Lack of administrative support

Order of Importance	Frequency	Cum. Freq.	Percent	Cum. Percent
1	2	2	3.6	3.6
2	6	8	10.9	14.5
3	4	12	7.3	21.8
4	4	16	7.3	29.1
5	4	20	7.3	36.4
6	5	25	9.1	45.5
7	10	35	18.2	63.7
8	6	41	10.9	74.6
No Response	14	55	25.4	100.0

TABLE XVII (Continued)

6. Lack of CAI software

Order of Importance	Frequency	Cum. Freq.	Percent	Cum. Percent
1	10	10	18.2	18.2
2	21	31	38.2	56.4
3	4	35	7.3	63.7
4	2	37	3.6	67.3
5	7	44	12.7	80.0
6	3	47	5.5	85.5
7	1	48	1.8	87.3
8	0	48	0.0	87.3
No Response	7	55	12.7	100.0

TABLE XVII (Continued)

7. Lack of time for development of CAI software

Order of Importance	Frequency	Cum. Freq.	Percent	Cum. Percent
1	8	8	14.5	14.5
2	9	17	16.4	30.9
3	12	29	21.8	52.7
4	5	34	9.1	61.8
5	4	38	7.3	69.1
6	2	40	3.6	72.7
7	8	48	14.5	87.2
8	1	49	1.8	89.0
No Response	6	55	11.0	100.0

TABLE XVIII

BREAKDOWN OF BUSINESS COMMUNICATION APPLICATIONS
OF CAI IN AACSB ACCREDITED SCHOOLS IN
RANK ORDER OF EFFECTIVENESS

1. Diction

Order of Effectiveness	Frequency	Cum. Freq.	Percent	Cum. Percent
1	2	2	3.6	3.6
2	0	2	0.0	3.6
3	1	3	1.8	5.4
4	2	5	3.6	9.0
5	4	9	7.3	16.3
6	2	11	3.6	19.9
7	2	13	3.6	23.5
8	7	20	12.8	36.3
9	2	22	3.6	39.9
10	0	22	0.0	39.9
No Response	33	55	60.1	100.0

TABLE XVIII (Continued)

2. Grammar

Order of Effectiveness	Frequency	Cum. Freq.	Percent	Cum. Percent
1	5	5	9.1	9.1
2	2	7	3.6	12.7
3	11	18	20.0	32.7
4	3	21	5.5	38.2
5	0	21	0.0	38.2
6	2	23	3.6	41.8
7	2	25	3.6	45.4
8	4	29	7.3	52.7
9	0	29	0.0	52.7
10	0	29	0.0	52.7
No Response	26	55	47.3	100.0

TABLE XVIII (Continued)

3. Graphics

Order of Effectiveness	Frequency	Cum. Freq.	Percent	Cum. Percent
1	1	1	1.8	1.8
2	6	7	10.9	12.7
3	2	9	3.6	16.3
4	5	14	9.2	25.5
5	1	15	1.8	27.3
6	0	15	0.0	27.2
7	0	15	0.0	27.3
8	7	22	12.7	40.0
9	0	22	0.0	40.0
10	0	22	0.0	40.0
No Response	33	55	60.0	100.0

TABLE XVIII (Continued)

4. Punctuation

Order of Effectiveness	Frequency	Cum. Freq.	Percent	Cum. Percent
1	3	3	5.5	5.5
2	2	5	3.6	9.1
3	4	9	7.3	16.4
4	10	19	18.2	34.6
5	8	27	14.5	49.1
6	3	30	5.5	54.6
7	1	31	1.8	56.4
8	2	33	3.6	60.0
9	0	33	0.0	60.0
10	0	33	0.0	60.0
No Response	22	55	40.0	100.0

TABLE XVIII (Continued)

5. Reinforcement of previous learning

Order of Effectiveness	Frequency	Cum. Freq.	Percent	Cum. Percent
1	5	5	9.1	9.1
2	1	6	1.8	10.9
3	2	8	3.6	14.5
4	2	10	3.6	18.1
5	1	11	1.8	19.9
6	9	20	16.4	36.3
7	3	23	5.5	41.8
8	0	23	0.0	41.8
9	2	25	3.6	45.4
10	0	25	0.0	45.4
No Response	30	55	54.6	100.0

TABLE XVIII (Continued)

6. Sentence arrangement

Order of Effectiveness	Frequency	Cum. Freq.	Percent	Cum. Percent
1	0	0	0.0	0.0
2	7	7	12.7	12.7
3	11	18	20.0	32.7
4	3	21	5.5	38.2
5	2	23	3.6	41.8
6	4	27	7.3	49.1
7	3	30	5.5	54.6
8	4	34	7.3	61.9
9	0	34	0.0	61.9
10	0	34	0.0	61.9
No Response	21	55	38.1	100.0

TABLE XVIII (Continued)

7. Spelling

Order of Effectiveness	Frequency	Cum. Freq.	Percent	Cum. Percent
1	20	20	36.4	36.4
2	5	25	9.1	45.5
3	3	28	5.5	51.0
4	2	30	3.6	54.6
5	5	35	9.1	63.7
6	2	37	3.6	67.3
7	0	37	0.0	67.3
8	1	38	1.8	69.1
9	0	38	0.0	69.1
10	0	38	0.0	69.1
No Response	17	55	30.9	100.0

TABLE XVIII (Continued)

8. Stylistic analysis

Order of Effectiveness	Frequency	Cum. Freq.	Percent	Cum. Percent
1	2	2	3.6	3.6
2	2	4	3.6	7.2
3	6	10	10.9	18.1
4	1	11	1.8	19.9
5	1	12	1.8	21.7
6	8	20	14.5	36.2
7	1	21	1.8	38.0
8	1	22	1.8	39.8
9	3	25	5.6	45.4
10	0	25	0.0	45.4
No Response	30	55	54.6	100.0

TABLE XVIII (Continued)

9. Word usage

Order of Effectiveness	Frequency	Cum. Freq.	Percent	Cum. Percent
1	1	1	1.8	1.8
2	14	15	25.5	27.3
3	1	16	1.8	29.1
4	6	22	10.9	40.0
5	3	25	5.5	45.5
6	3	28	5.5	51.0
7	2	30	3.6	54.6
8	0	30	0.0	54.6
9	2	32	3.6	58.2
10	0	32	0.0	58.2
No Response	23	55	41.8	100.0

TABLE XIX

BREAKDOWN OF THE SOURCES OF CAI SOFTWARE FOR BUSINESS COMMUNICATION COURSES IN AACSB ACCREDITED SCHOOLS IN RANK ORDER OF IMPORTANCE

1. Acquired from another college or university

Order of Importance	Frequency	Cum. Freq.	Percent	Cum. Percent
1	1	1	1.8	1.8
2	7	8	12.7	14.5
3	9	17	16.4	30.9
4	0	17	0.0	30.9
No Response	38	55	69.1	100.0

TABLE XIX (Continued)

2. Produced within the school

Order of Importance	Frequency	Cum. Freq.	Percent	Cum. Percent
1	5	5	9.1	9.1
2	13	18	23.6	32.7
3	3	21	5.5	38.2
4	0	21	0.0	38.2
No Response	34	55	61.8	100.0

3. Purchased from commercial vendors

Order of Importance	Frequency	Cum. Freq.	Percent	Cum. Percent
1	31	31	56.4	56.4
2	3	34	5.5	61.9
3	2	36	3.6	65.5
4	0	36	0.0	65.5
No Response	19	55	34.5	100.0

VITA

PAN CHIEN-CHUN

Candidate for the Degree of

Doctor of Education

Thesis: A STUDY OF THE STATUS OF COMPUTER-ASSISTED INSTRUCTION IN BUSINESS COMMUNICATION COURSES IN AACSB ACCREDITED SCHOOLS

Major Field: Business Education

Biographical:

Personal Data: Born in Chiayi, Taiwan, Republic of China, January 1, 1951, the daughter of Mr. and Mrs. Pan Wu-Hua.

Education: Graduated from Provincial Chiayi Girl's High School, Chiayi, Taiwan, ROC, in June, 1969; received Bachelor of Arts degree in English Literature and Language from Tamkang University, Taipei, Taiwan, ROC, in June, 1973; received Master of Science degree in Business Education from Southern Illinois University, Carbondale, Illinois, in May, 1979; completed requirements for the Doctor of Education degree at Oklahoma State University in July, 1985.

Professional Organizations: National Business Education Association, Mountain-Plains Business Education Association; Delta Pi Epsilon; Business and Vocational Education Association of Republic of China; Phi Kappa Phi; The Association for Business Communication.